

A CORPUS-BASED STUDY OF SOME LINGUISTIC FEATURES OF
METAPHOR

by

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ABSTRACT

Recent studies of metaphor have stressed both its importance to thinking and its pervasiveness in language. A number of researchers now claim that metaphorical transfer often connects semantic domains at the level of thought. This has implications for formal features of individual linguistic metaphors and for the lexical relations holding between them.

The linguistic data used by metaphor researchers has largely been either intuitively derived or taken from small hand-sorted collections of texts. As yet, there have been few attempts to systematically examine metaphorical linguistic expressions in non-literary corpus data.

In this thesis I use corpus data to examine a number of polysemous lexemes and I attempt to establish whether their metaphorical meanings, the lexical relations holding between these meanings, and aspects of their collocational and syntactic behaviour can be accounted for by a theory of metaphor as conceptual mapping. The investigation comprises a number of studies of non-innovative metaphorical expressions and their literal counterparts. I conclude that the contemporary theory of conceptual metaphorical mapping accounts for some features of linguistic metaphor but that it does not completely explain the data.

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INTRODUCTION

Metaphor has become the subject of an enormous volume of research in the last twenty years, across a range of academic disciplines. It is not unusual for metaphor conferences to draw scholars from the areas of philosophy, psychology, literary studies, linguistics and anthropology. All of these researchers bring their own questions and methodologies to the study of metaphor. It seems necessary therefore to outline my starting point for this research and to attempt to show where it is situated in the field of metaphor studies.

The problems which metaphor presents for teachers of foreign languages and for lexicographers provided the initial motivation for this research. I first became aware of the pervasiveness of metaphor when I worked as a teacher of English to speakers of other languages. As a native speaker of English I was frequently unaware of the metaphorical nature of the vocabulary that my students were attempting to learn. The connection between the literal and metaphorical senses of lexemes seemed to me so natural that the lexemes seemed monosemous for all practical purposes. For instance, the phrasal verb **see through** has a literal sense exemplified by 'I could see through the curtain' and a metaphorical sense exemplified by 'I could see through his lies'. These two senses seemed to me to be naturally linked, so that an understanding of the literal sense entailed an understanding of the metaphorical sense. Through discussing these meanings with learners I saw that they were not inevitable expressions of a single idea, but the realisations of an underlying metaphorical link between distinct domains, seeing

and understanding.

Lexicographers who work with corpus data become almost immediately aware of the pervasiveness of metaphor in language. Naturally-occurring citations of many lexemes show the sheer frequency of linguistic metaphors, which sometimes outnumber their literal counterparts. This poses a problem for the description of the lexeme. It might seem sensible to consider the more frequent sense as the most central, but where this is apparently a metaphorical extension of a literal sense, many language users would in fact regard the literal sense as more central, regardless of frequency.

These two stages in my professional life prompted me to investigate conventional linguistic metaphors. I was concerned particularly to understand to what extent metaphors cluster in semantic groups, and whether the lexical relations holding between literal senses of different lexemes are echoed by their metaphorical counterparts. I was also interested in grammatical differences that can be observed between literal and metaphorical senses of some lexemes. In addition, I wanted to find whether, as seemed might be the case, many linguistic metaphors retain the evaluative meaning of their literal counterparts.

The work of Lakoff and Johnson (1980) and other recent research within the field of cognitive linguistics has been important to me for the possibility it offers of explaining linguistic features of metaphor. In the research described in this thesis I have set out to explore the linguistic implications of recent work on metaphor

and thought, and I have conducted a number of corpus-based studies in an attempt to ascertain whether these implications are borne out. I have not attempted to evaluate the research of Lakoff and his followers in its own terms, as a hypothesis about cognition. While I do include a brief discussion of some small-scale informant tests that I conducted, the majority of my data are taken from language in use. They are analysed for formal linguistic features and for aspects of meaning which can be identified through linguistic context. I do not consider the data in terms of the individual language user's mental processes. I do not examine innovative or historical metaphors; my studies are confined to conventional metaphors, a category which is described in Chapter Four.

Chapters One to Four of this thesis outline the theoretical framework within which the studies were conducted. In Chapter One I discuss those aspects of the contemporary theory which have implications for linguistic metaphors. In Chapter Two I discuss some related phenomena. In Chapter Three I develop a model of meaning division enabling me to identify independent senses from a list of corpus citations of a lexeme, and in Chapter Four I outline criteria for categorising senses as metaphorical or otherwise. In Chapter Five I describe the methodology which I use to examine my corpus data. Chapters Six to Nine consist of four corpus-based studies, each of which examines a different linguistic feature of metaphor, and in Chapter Ten I draw some conclusions from the studies and evaluate the work.

1. METAPHOR IN LANGUAGE AND THOUGHT

1.1 INTRODUCTION

Metaphor is for most people a device of the poetic imagination and the rhetorical flourish - a matter of extraordinary rather than ordinary language. Moreover metaphor is typically viewed as characteristic of language alone, a matter of words rather than thought or action. (Lakoff and Johnson 1980: 3)

Lakoff and Johnson's critique of the above view is a work of enormous significance for the study of metaphor (1980). They contend that metaphor is far from being a mere linguistic device, and that it helps to shape the way we think and act. This contention has been explored and developed in a large number of studies in the fields of psychology, critical linguistics and philosophy (such as, for example, the studies described in Paprotté and Dirven (eds) 1985 and Ortony (ed.) 1993). Work in this tradition has implications also for the study of lexis, as the arguments of Lakoff and his followers may be able to explain systematically some apparently arbitrary features of lexical meaning and lexical relations.

In this chapter I discuss some central features of the contemporary view of metaphor, and argue that these features might be expected to result in certain lexical patterns. The second half of this thesis is devoted to a series of explorations of these linguistic features. Here I start by considering the background to the contemporary view of metaphor.

1.2 'DECORATIVE' AND 'CENTRAL' VIEWS OF METAPHOR

Much of the work being done on metaphor in the latter half of the twentieth century is concerned to stress the ubiquity of metaphor in conversation and in the print media against [...] earlier theorists ... (Mahon in press)

Implicit in Mahon's assertion and that of Lakoff and Johnson, above, is the existence of two potentially opposing approaches to metaphor. These are one in which it is seen as decorative, secondary, or, more negatively, parasitic on literal language, and one in which it is perceived as occupying a central place in thought and language. The second of these views is referred to as the 'contemporary theory of metaphor' by Lakoff (1993), and is the main subject of this chapter.

Researchers working broadly within the first approach have tended to write mainly about innovative and poetic metaphors such as 'You're the cream in my coffee' (Grice 1967: 53) or 'Sally is a block of ice' (Searle 1993). In this view, metaphor use and comprehension are dependent on, and subordinate to, knowledge of literal language. To understand metaphorical utterances, the hearer at first attempts to interpret them literally, and on finding that this is impossible then searches for a plausible interpretation. This is done by using pragmatic principles, such as conversational maxims (Grice 1967), knowledge of semantic mechanisms, such as cancellation or transfer of semantic features (Cohen 1993, Levin 1977), or a combination of these mechanisms. It is held that non-innovative metaphors come into existence when innovative metaphors are repeated and reused to the extent that most speakers of the language become familiar with

them. At this point, the metaphorical use becomes a further conventional meaning of the lexeme, which is now polysemous. Such metaphors are often described as ‘dead’, meaning that hearers no longer have to access another, literal, meaning first in order to interpret them (Searle 1993).

The ‘decorative’ understanding of metaphor outlined above contains at least two points on which almost all writers on metaphor agree. Firstly, it is widely agreed that the literal meaning of a lexical item is usually historically and psychologically prior to its metaphorical meaning (for example, Lakoff 1987a, Sweetser 1990). It is also agreed that innovative and dead metaphors are probably processed by hearers in different ways (for example, Gibbs and Gerrig 1989).

Despite these common points, the ‘decorative’ view is strongly criticised by proponents of the contemporary, ‘central’ theory of metaphor because it seems to suggest that metaphor is no more than an ornament, a rhetorical device or, at best, a mechanism for filling lexical gaps in the language. The ‘decorative’ view seems to suggest that innovative metaphor is spread onto the surface of language, and that conventional metaphors are simply products of innovative metaphors, which have somehow seeped down into the fabric of literal language. By implication, most metaphor could be peeled away to leave language largely intact. To holders of the contemporary ‘central’ view this is utterly mistaken; for them, metaphor is integral to language and cannot be divorced from it.

Some holders of the contemporary view have tended to over-stress its originality.

The now unfashionable view that metaphor is decorative and separable from literal language seems to have been projected backwards, as a blanket interpretation of most work on metaphor up to the very recent past. Gibbs' assertion that figurative language has been 'traditionally viewed as the tool of poets and politicians' (1994: 2) is typical of some dismissals of former views of metaphor. Mahon (in press) points out that this is partly because contemporary theorists have been working in reaction to the relatively recent climate of Logical Positivism, which was hostile to a central view of non-literal language (Levinson 1983: 227).

Nonetheless, a 'central' view of metaphor has been held at several points in the past. Although the 'decorative' view of metaphor is often traced back to Aristotle (for example, Richards 1936, Blakemore 1992, Saeed 1997), this may be a misinterpretation of his work. While in *Poetics*, the invention of an apt metaphor is described as the mark of genius, and hence by implication outside the province of ordinary language (Hawkes 1972), Mahon notes that other writings indicate that Aristotle's views on non-innovative metaphor were in fact in line with contemporary thinking. He shows that in *Rhetoric* Aristotle claims that everyone uses metaphors in conversation, and that people can learn more effectively from them than from any other linguistic device. This accords closely with current emphasis on the pervasiveness of metaphor and its importance in education (Olson 1988, Cameron 1991, 1997, in press). Hawkes also argues that in the Romantic view, language was seen as organic and metaphor as inseparable from the rest of language (1972). He shows that Coleridge believed that good

metaphors are natural and central to creative thought, views that are widely held by contemporary writers (for example, Lakoff and Turner 1989). Saeed goes so far as to suggest that the contemporary view ‘can be seen as an extension of the Romantic view’ (1997: 304). While recent developments in the study of metaphor are, indeed, ground-breaking, the examples of Aristotle and the Romantics demonstrate the inaccuracy of suggesting that a decorative or parasitic view of metaphor has been held by all writers up to the late twentieth century.

1.3 CENTRAL TENETS OF THE CONTEMPORARY VIEW

1.3.1 Metaphor is central to thought

While in the ‘decorative’ view described above metaphor is a poetic or rhetorical device peripheral to language and thought, in the contemporary theory it occupies a central role in thought and thus in the development of language. Lakoff and his followers claim that our understanding and knowledge of many topics which are central to our existence, such as birth, love and death, are filtered through metaphors. Metaphors relate these abstract topics to concrete, more easily observable phenomena and, it is argued, very little thinking on abstract subjects would be possible without them.

Lakoff and Johnson postulate the existence of links known as *conceptual metaphors*, such as HAPPY IS UP (1980: 15). (Following their usage, upper case denotes a conceptual metaphor.) A conceptual metaphor is a connection between two semantic areas, or *domains*, in this case the concrete domain of direction

(UP) and the abstract domain of emotion (HAPPY). The domain which is talked of metaphorically, ‘emotion’ in this example, is known as the *target domain*, and the domain which provides the metaphors, ‘direction’ in this example, is known as the *source domain*. It is said that ideas and knowledge from the source domain are *mapped* onto the target domain by the conceptual metaphor. Conceptual metaphors function at the level of thought, below language, and are realised linguistically by the expressions generally known as ‘metaphors’. In this thesis, these are called *linguistic metaphors* to distinguish them from conceptual metaphors, following Steen (1994). HAPPY IS UP is realised by linguistic metaphors in expressions such as ‘I’m feeling **up**’, ‘That **boosted** my spirits’ and ‘My spirits **rose**’. The meaning of a linguistic metaphor is generally described in terms of *topic* and *vehicle*. The vehicle is the meaning which the item has in its source domain; in the case of **up**, this is ‘direction away from the ground’. The topic is the semantic space which the item occupies in the target domain, its metaphorical meaning; in the case of **up** this is ‘happy’.

The everyday use of such linguistic metaphors is given as one type of evidence for the centrality of metaphor. It is claimed that the frequency of linguistic metaphors, and hence the centrality of metaphor, had gone largely unnoticed until recently, because speakers do not consider most non-innovative linguistic metaphors to be either figurative or marked (Lakoff and Johnson 1980, Gibbs 1994). For example, most speakers would not perceive metaphoricity in phrases such as ‘I’m feeling up’. It is argued that in fact their very unmarkedness can be taken as proof of their importance:

those things that are most alive, and most deeply entrenched, efficient and powerful, are so automatic as to be unconscious and effortless. (Gibbs 1994: 22)

According to the contemporary theory, linguistic metaphors are unmarked because the conceptual metaphors which they realise form the background to our conceptual system rather than the foreground, and so we are not accustomed to analysing or even noticing them in normal circumstances. As Carter writes:

... such metaphors are often so deeply impregnated in language and culture that they are not noticed as such. (1992: 118)

Unmarked linguistic metaphors such as these are often described as ‘dead’ in the ‘decorative’ view. Lakoff and his followers disagree strongly with this label, claiming that these metaphors signal major conceptual links and so are very much alive (Lakoff 1987b).

A number of writers claim not only that linguistic metaphors are very frequent, but that some abstract subjects cannot be talked about without them. One of the most influential studies of linguistic metaphors in which this position is argued is described in a seminal paper by Reddy (1993)¹. Reddy shows that the overwhelming majority of linguistic expressions which lexicalise the semantic area of communication are metaphors from a single source domain, that of physical transference. The linguistic metaphors he cites include **to get one’s**

¹ Citations here are from the second edition of the collection in which it appears, published in 1993. The collection was originally published in 1979.

message across, to pack ideas in (to words) and **to extract ideas** (from words), which seem to realise a conceptual metaphor referred to as the ‘conduit metaphor’. Following Lakoff and Johnson’s convention this can be expressed as COMMUNICATION IS PHYSICAL TRANSFER.

Reddy demonstrates that it is very difficult to talk about communication without using linguistic metaphors from the source domain of physical transfer. He argues that this is a reflection of our ways of thinking about communication, which are inherently metaphorical. He shows that novel ways of metaphorically conceptualizing communication could be devised, resulting in new linguistic metaphors. What does not seem possible is metaphor-free talk about the subject. This is because communication is an abstract notion, which cannot be understood directly, but only through the filter of a less abstract and better-understood area.

Further studies of linguistic metaphors have shown that many abstract topics are usually talked about by the use of metaphors. Lakoff and Turner show that many of our ways of talking about understanding involve linguistic metaphors which literally refer to the physical act of taking hold of an object (1989). Examples of this are the expressions **grasp an idea** and **get a handle on something**, lexicalising the conceptual metaphor UNDERSTANDING IS SEIZING (Sweetser 1990), and **look on the bright side** and **a sunny smile**, lexicalising HAPPINESS IS LIGHT (Kövecses 1991). If it is accepted that linguistic metaphors demonstrate the existence of conceptual metaphors, then there is a huge and growing body of evidence that conceptual metaphors have a central role in

thought and language.

1.3.2 Metaphor is grounded in physical experience

The vast majority of the conceptual metaphors discussed in the literature referred to above are mappings of concrete domains onto the abstract. These conceptual metaphors enable us to quantify, visualise and generalise about the abstract because they make use of source domains that we know well from our concrete experience. It seems unlikely that connections between each source domain and abstract domain were established arbitrarily; it has always been understood that metaphors have some motivation, or *grounds*. For example, in the metaphor ‘My wife ... whose waist is an hourglass’ from *Free Union* by André Breton (1931, cited in Lakoff 1987c) the grounds are the similarity in shape between an hourglass and a woman’s body with a narrow waist. In the contemporary view it is believed that the grounds for the most central conceptual metaphors can often be found in physical experience. This notion has been explored in several different ways by researchers working within the contemporary theory.

Several writers claim that mental processes are talked about in terms of physical perception, that the metaphors that lexicalise the field of mental processes are motivated by bodily experience. Johnson argues that using such metaphors is the only way we can interpret mental processes and that therefore the separation between the body and the mind which is traditional to Western thinking is wrong (1987). Sweetser uses etymological evidence to show that mappings such as the conceptual metaphor UNDERSTANDING IS SEIZING are systematic and

widespread across different languages and times. She argues that this is not coincidental but arises because we perceive understanding as an extension of literally grasping and holding an object (1990). Gallup and Cameron also argue that our physical experience is reflected in our choice of metaphors (1992). They claim that English, probably in common with most human languages, is biased towards visual metaphors and away from metaphors from the source domains of the other senses. As evidence for this claim, they quote a large number of linguistic metaphors from the source domain of vision, showing that these lexicalise a number of target domains. They claim that the source domains of the other senses provide far fewer linguistic metaphors. It is suggested that vision is a preferred source domain because seeing is more important than the other senses to human survival and advancement.

Gibbs (1993, 1994) argues that many conceptual metaphors used to talk about emotions are motivated by the physical sensations that we experience when we have those emotions. He examines the linguistic metaphors used to talk about anger and claims that many of these are motivated by the conceptual metaphor ANGER IS HEATED FLUID IN A CONTAINER. This is realised in expressions such as ‘She got all **steamed up**’ and ‘I was **fuming**’ (1994: 203). He claims that we each perceive our own body as a container and when we become angry we experience physical sensations of heat and internal pressure. This means that many of the linguistic metaphors we use to talk about anger have their origins in our direct physical experience. Yu looks at metaphors used to talk about this target domain in Chinese and finds that the heat and pressure elements of the

metaphor are the same as in English; the only difference is that gas is used instead of fluid to characterise anger in the Chinese metaphor (1995). Lakoff looks at metaphorical ways of talking about lust and finds that some of these are based on lexis from the domain of fire. He speculates that these have their grounds in physical sensations (1987a). Emanatian finds lexicalisations of LUST IS FIRE in Chagga, a language spoken in Tanzania (1995). The similarities with English metaphorical mappings found by Yu and Emanatian in non-Indo-European languages add strength to the contention that these metaphors have a physical rather than a cultural basis.

Lakoff and Johnson show how a number of orientation metaphors seem to connect abstract domains to concrete physical experiences associated with them. For example, they claim that the conceptual metaphor MORE IS UP, LESS IS DOWN, realised in expressions such as ‘My income **rose** last year’ and ‘If you’re too hot, turn the heat **down**’ (1980: 16), is grounded in the experience that larger quantities of physical substances form higher piles than smaller quantities. HAPPY IS UP, SAD IS DOWN is grounded in our physical expression of these feelings; when happy we feel full of energy and tend to hold ourselves upright, but when we are sad we tend to slump. Some conceptual metaphors, such as GOOD IS UP, BAD IS DOWN, are grounded only indirectly in physical experience, through other conceptual metaphors. Happiness and health, which are UP through direct physical experience, ‘characterize what is good for a person’, and so by extension GOOD also becomes UP (1980: 16).

Intuition suggests that some metaphors are more closely tied to direct experience of the world than others, which are grounded in culturally-mediated experience. For example, it seems highly likely that CLEAN IS GOOD; DIRT IS BAD is grounded in direct concrete experience, while a metaphor such as ELECTIONS ARE HORSE-RACES is probably not. Lakoff argues that metaphors grounded directly in experience are likely to be both deeply rooted in individuals' thought patterns and also common across languages (1993). A metaphor such as ELECTIONS ARE HORSE-RACES is not grounded in universal human experience; its source domain structure and grounds are found in culture-specific patterns of behaviour rather than in universal human experience. According to the contemporary theory, it will therefore occupy a less than central position in the thought patterns of English speakers. It is also less likely to occur in other languages.

In criticism of the above argument, it is sometimes felt that the influence of physical experience on thought is over-stressed and the influence of culture is underplayed. Fernando argues that theories linking feelings directly with physical sensations ignore 'people's cultural interpretation of the world they inhabit.' (1996: 122). She claims that some idiomatic expressions for metaphors in fact draw on 'resources of a language which still retains its meaning system concepts traceable back to the Middle Ages' and in some instances, earlier (1996: 124). She cites idioms which can be linked to beliefs in the humours as evidence. She argues however that this is not incompatible with the theory that metaphors are grounded in physical experience, but that it should be remembered that physical experience

is filtered culturally, and some linguistic expressions can be explained more completely with reference to former belief systems.

Further criticisms can be made. The research outlined above concerns processes working at a subconscious level which are difficult to test reliably. Further, researchers hypothesise about meaning transfers which in some cases took place centuries ago and which can only be traced using intuition and the fragments of written texts which survive. The argument that metaphor is grounded in physical experience is suggestive but far from proven.

Some implications of this argument for drawing distinctions between metaphor and other tropes are looked at in the next chapter.

1.3.3 Metaphors structure knowledge

In his discussion of the cognitive properties of metaphor, Allbritton observes:

Metaphor has been shown to serve a number of important cognitive functions, including that of making new domains accessible through metaphorical ‘scaffolds’ imported from better-known domains such as in the case of metaphors in science, and providing a coherent framework or schema for understanding such everyday topics as time, arguments and emotions. (1995: 43)

The contemporary understanding of the way metaphor structures these two types of knowledge: knowledge of everyday topics and knowledge of new domains; is looked at in this section.

It has already been argued that some conceptual metaphors enable us to think and talk about everyday abstract topics which are difficult to understand directly. It follows that conceptual metaphors may help to organise what we have directly experienced of these topics into a coherent framework. Low takes this view, claiming that two of the main functions of metaphor are ‘To make it possible to talk about X [the topic] at all’ and ‘To demonstrate that things in life are related and systematic in ways we can, at least partially, comprehend’ (1988: 127).

Lakoff shows how our experience of life events is organised by the conceptual metaphor A PURPOSEFUL LIFE IS A JOURNEY (1993). In this metaphor, major life events are talked about as landmarks along a journey and developments in a career or personal life are talked about as physical progress towards a

destination. Evidence for the conceptual metaphor is found in linguistic metaphors such as **be without direction**, **be at a crossroads**, and **to go places**. Life is mysterious and unpredictable, and it may be impossible for anyone to comprehend it directly without metaphors such as this. The journey metaphor helps us to tie together our direct experience of life events into a comprehensible and apparently logical schema. Other direct experiences expressed through the metaphor are those of watching children grow and become adults (**start out in life**), of making choices about what to do with our lives (**choose a path, a road to follow**) and of reflecting on earlier times in our lives (**look back**). The metaphor provides a logical framework connecting such experiences by making use of the concrete, universally shared experience of literal journeys. In this way, some of the central experiences of human life are related to each other and given logic through the structure of a well-known domain.

Researchers have also examined the role of metaphor in structuring specialised knowledge. This can be divided into two areas; metaphors used with non-specialists, facilitating understanding, (Gentner 1982) and metaphors used by specialists in discussion amongst themselves in order to extend thought (Henderson 1985, Low 1988).

The relatively new field of information technology provides examples of this first use of metaphor in a specialised field. The conceptual metaphor **CONNECTED COMPUTERS ARE NODES IN A WEB** is lexicalised in linguistic metaphors such as **web** and **net**, and facilitates understanding of computer-held information

systems for non-specialist speakers. This happens because speakers will tend to project their understanding of the non-metaphorical sense of the term, in this case ‘a spider’s web’ onto the new domain. This means that when they see **web** used in this way for the first time, they will not only acquire a new vocabulary item, but they should also develop their mental model of the target domain. This happens as attributes of non-metaphorical webs are transferred to the new domain. Attributes transferred from the source domain of spiders’ webs to the domain of computers and the Internet might include the existence of thin but strong connections between nodes, and coverage of a large area using fine connections. In this way the metaphor helps language users to develop a mental model of the new field. The field of information technology is also lexicalised through other competing metaphors, such as USING COMPUTER CONNECTIONS IS TRAVELLING, realised by **navigate** and **surf** (the net), **go to** (a web-page) and **web-site**. Each conceptual metaphor highlights a different aspect of the field.

Complex conceptual metaphors can be used as very powerful learning tools. Gentner and her followers have studied the power of metaphors in science to help people make predictions (Gentner 1982, Gentner and Gentner 1983, Collins and Gentner 1987). Gentner and Gentner looked at two different popular metaphors for electricity, both of which are complex in the sense of having several points of relation established between the source and target domains (1983). They hypothesised that the complexity of each metaphorical mapping would lead to its entailments being accepted as logical. To test this hypothesis, they studied how each metaphor influenced people’s reasoning when answering questions about

how electricity behaves in situations which had not been studied previously. Subjects who understood electricity in terms of flowing water answered differently from those who understood electricity as crowds of particles, which suggested that they used their different metaphors in order to formulate predictions.

A particular type of metaphor is also used by specialists to develop new hypotheses about their field. Metaphors can provide conceptual models, which allow specialists to project the structure of a known domain onto the unknown, and then explore the implications (Boyd 1993, Gick and Holyoak 1983, Olson 1988, Allbritton 1995). Low gives the following example:

By envisaging the brain as a computer rather than a telephone exchange, or particles as having colour, scientists can explore the implications of the transferred item and generate new hypotheses. The metaphor provides new paths along which thought can proceed in a relatively principled way. (1988: 128)

Collins and Gentner compared the reasoning processes used by specialists and non-specialists and concluded that both groups use metaphors to understand the world; the difference lies in the degree of sophistication of the specialists' metaphors (1987). They looked at the process of making predictions about the behaviour of liquids and gases and found that the subjects who had no expert knowledge of the field were only able to understand some concepts in it by using simplistic metaphors drawn from more familiar domains. The specialists on the other hand, made use of sophisticated metaphorical models in order to generate theory and ideas.

An example of the use of this type of metaphor to generate new ideas in product design is given by Schon, who discusses the problems experienced by a team of designers working on a new paintbrush (1993). When one of the group suggested that a paintbrush is a type of pump, the team started to think about painting in a new way. They discussed the purpose, design and action of pumps and transferred some of these entailments onto their notion of a paintbrush. This creatively extended their understanding of painting, leading to an improved design. It seems then that metaphor not only helps non-specialists to develop crude working models of fields that are new to them, but that some kinds of metaphors can also be used by researchers at the cutting edge of their fields.

In this section it has been argued that metaphors structure knowledge at both unconscious and conscious levels, and that this capacity can be exploited as a tool for developing thought. The capacity of a metaphor to give coherence and a possibly spurious logic to its target domain also gives it potential as a persuasive tool. Because of this potential, many contemporary theorists hold that metaphor is ideological, a view which will now be outlined.

1.3.4 Metaphor is ideological

Kress's claim that metaphor is 'a potent factor in ideological contention' (1985: 70) is supported by a large body of evidence. A number of researchers have analysed texts in which it appears that metaphors have been used in order to present a particular interpretation of situations and events. For instance, Lakoff and Johnson show how the use of a WAR metaphor affected public perceptions of the search for cheap energy resources in the United States (1980: 156). One inference which was suggested, though not made explicit, by THE SEARCH FOR ENERGY IS WAR was the existence of a hostile foreign enemy, which cartoonists sometimes hinted was Arab. Lakoff and Johnson claim that by creating such inferences, the WAR metaphor influenced the thought and behaviour of politicians and the public. A different metaphor might have created different inferences and led to different courses of action. In this section, the mechanisms by which metaphors may present a biased interpretation of their topic are examined, and further examples from the literature are discussed.

Metaphors can be used to suggest a partial interpretation of situations and events because they suggest an equation between topic and vehicle which does not actually exist. As Low points out, although the topic and vehicle of a metaphor must share resemblances at one or more points, they are not identical. If they were, synonymy, not metaphor, would result (1988). It follows that a metaphor will never give a completely accurate reflection of its topic but will inevitably highlight some aspects and hide others (Lakoff and Johnson 1980: 10- 14). For

example, UNDERSTANDING IS SEIZING (Lakoff and Turner 1989), which is realised by items such as **grasp**, highlights the feeling we have when we quickly understand a new idea as a whole, but it hides the lengthy pondering which often precedes this. Reddy (1993) shows that the conduit metaphor for communication highlights the role of the sender of a message in its ultimate success or failure, but downplays the role of the receiver. This is because one of the metaphor's inferences is that an idea can have an independent existence in a kind of conceptual space, and that the receiver has to do no more than reach out to take it. In fact the receiver of an idea often has to struggle to unpack it, and he or she will never perceive it in exactly the same form as the sender.

Many metaphors, including the two discussed above, also distort because they are over-simplifications. In the previous section the conceptual metaphor A PURPOSEFUL LIFE IS A JOURNEY was discussed and it was argued that this metaphor enables us to make sense of a topic that is difficult to comprehend directly. However, human existence is obviously far more complex than a literal journey, so the metaphor will present a simplified interpretation of it. Aspects of the topic are lost, and an artificially simple understanding of it is suggested. Many conceptual metaphors are reductions of a complex and abstract topic and thus are liable to lead to a biased interpretation.

It has been argued that metaphors give structure to everyday knowledge. It follows that frequently-used conceptual metaphors will help to organise the everyday knowledge of large numbers of people. A community which shares

conceptual metaphors is likely to share frameworks for everyday knowledge about subjects such as life and death, mental processes, consciousness and emotions.

Mey writes:

Metaphors represent certain ways of thinking that are rooted in a common social practice. (1994: 62)

If all metaphors present a partial picture, then the frequent metaphors of a community must contribute to a collective bias in understanding the world, as they both hide and highlight aspects of reality from members of that community. As Hawkes argues, metaphors have a normative and reinforcing effect, limiting our understanding as well as developing it:

If [metaphors] seem sometimes to shake the bars of our cage, it is often only to demonstrate how firmly, how comfortably, these are fixed. (1972: 89)

While this seems an undesirable aspect of metaphor, it is also an unavoidable one. Writers such as Reddy (1993) and Mey (1994), who are concerned about the normative effects of metaphor, do not suggest that 'reality' can be accessed directly. Nonetheless, they urge that metaphors should not be accepted uncritically; their inferences should be made explicit and challenged, and alternative metaphors should be explored.

It seems that researchers can learn about a community's interpretation of the world by studying its conceptual metaphors. These can only be accessed through the linguistic metaphors that appear frequently in language. Working on this

assumption, several writers have analysed the linguistic metaphors which lexicalise particular fields in order to make explicit some popular beliefs about that field. Howe studied metaphors used in contemporary American political discourse, and found that the masculine nature of American politics is encoded in its sports and war metaphors (1988). Patthey-Chevaz *et al.* examined metaphors used to talk about sexual desire in writing for women. They argue that these construct women as sexually passive and men as active (1996). Van Teeffelen studied the representation of the Palestinian-Israeli conflict in popular Western fiction and found that the metaphors that lexicalise the field encode racist views towards Palestinians. In the texts he studied, metaphors are used to imply that individual Arab characters are mentally unstable and emotionally dysfunctional. In his corpus Arabs are also talked about collectively more than other races, and this is done metaphorically using verbs from the source domains of animals or of inanimate and uncontrollable entities. He finds that

Racist discourse is replete with animal, water or sea metaphors. (1994: 395).

In each of these studies, it is found that attitudes which speakers might deny if they were made explicit are expressed covertly through metaphor. To some extent, the metaphors will also help to perpetuate these attitudes, if their linguistic realisations are acquired uncritically by new speakers learning the language.

The discussion has centred on metaphors whose linguistic realisations pervade the conventional lexicon, and which therefore, in the contemporary view, encode

ways of thought known at a subconscious level by all members of the linguistic community. Such studies might suggest the existence of a central and coherent collection of conceptual metaphors, but that does not always seem to be the case. Although there is a preferred metaphor for some subjects, such as communication, other subjects are expressed through a varied stock of metaphors, some of which have competing entailments (Bolinger 1980). For instance, Voss *et al.* studied the metaphors used in the US Senate debate on the crisis in the Persian Gulf in 1990-91. Senators who favoured continuing sanctions used different metaphors from those who favoured military action (1992). It seems that speakers sometimes have a choice of conventional conceptual metaphors through which to express their beliefs, and will naturally tend to choose the metaphor whose entailments they prefer.

A number of writers examine the way in which politicians and other policy-makers select and create particular metaphors in order to justify particular opinions or actions. Several studies, like the above, look at metaphors used to talk about the Persian Gulf War. Rohrer argues that metaphors such as JUSTICE IS A BALANCE were deliberately activated and exploited by some American politicians in the months leading up to January 1991 in order to persuade the American public that war against Iraq was both right and inevitable (1995). Pancake looks at WAR IS A STORM and other metaphors used by American politicians during the Persian Gulf War and concludes

... the American people's acceptance of and support for the war was determined in part by the metaphors in which they read about it. (1993:

281)

Other writers look at the use of metaphor in discussions of social issues. Miller and Fredericks examine a report on American public education and argue that the metaphors reveal a deeply conservative view of society (1990). Schon argues that social policy is determined by the way problems are set rather than by their ‘solutions’, as once a situation is presented as a problem within a particular metaphor, the ‘solution’ is often predetermined. He shows for example that if poor quality housing is talked of metaphorically as ‘blight’, then a ‘cure’ in the form of demolition is entailed (1993). Sontag, in her seminal discussion of the metaphors of illness (1991), notes that the linguistic metaphor **cancer** is used a similar way. My examination of naturally-occurring citations of **cancer** backs this claim up¹ (Study 1). The following citations are typical.

¹ Unless otherwise specified, all citations in this thesis are taken from the Bank of English, a corpus of written and spoken English owned by Collins Cobuild, a division of HarperCollins Publishers, and held at the University of Birmingham. The composition of the Bank of English, and the techniques used to search it, are described in Chapter Five. Sample citations from all the corpus studies referred to in this thesis are given in Appendix Two. Throughout this thesis, citations from the Bank of English are given in 9 point Courier font, as in the following examples.

cancer+of
(Study 1)

If it falls to me to start a fight to cut out the **cancer of bent and twisted journalism** in our country with the simple sword of truth... then I am ready to do it.

(Jonathan Aitken, British politician)

We cannot surrender the streets of our cities to the **cancer of racism and fascism** under the pretext of liberty and democracy.

This experience comes when people recognise common interests and a common way of life, based on co-operation with their neighbours. It exists only where social life has been fully privatised, rescued from the **cancer of state control**, and returned to the spontaneous sources of its life.

In each of the above citations, **cancer** is used to express strong disapproval of the entity referred to in a post-modifying prepositional phrase. Each writer attempts to attach negative value to that entity by evoking the connotations of the literal sense of **cancer**. By using this metaphor, writers imply that the entity is threatening and must be eliminated. Context suggests that the writers of the above citations hold different ideological positions, which demonstrates that the ideological use of metaphor is not restricted to speakers holding one particular world-view.

In this and previous sections, a number of studies by researchers working within the contemporary theory of metaphor have been referred to. The discussion up to this point has focussed on the claims of contemporary theorists rather than evidence. In the following section I present some evidence for the contemporary theory drawn both from the literature and from my own research.

1.4 EVIDENCE FOR THE CONTEMPORARY VIEW

In this section I discuss some evidence for the contemporary theory of conceptual metaphors. Most of the discussion centres on the conceptual metaphor UNDERSTANDING IS SEIZING (Lakoff and Turner 1989). I have chosen this example to work with because it typifies conceptual metaphors discussed by contemporary theorists: it is a mapping of concrete onto abstract, of body onto mind (Johnson 1987), and it appears to account for a number of conventional linguistic expressions. I examine this metaphor using evidence other than that of my own or other researchers' intuitions, and I use this evidence to argue that UNDERSTANDING IS SEIZING is an important conceptual link. The evidence is taken from four sources: comments from non-expert native speaker informants; a study of metaphors in British Sign Language; studies of languages other than English; and a study of 500 naturally-occurring citations of **grasp**.

Evidence for the centrality of UNDERSTANDING IS SEIZING and other conceptual metaphors was found in an informant test which I conducted (Informant Study 1). The informants were 55 native speakers of English who were in various stages of a four-year teacher-training degree. They had received no training in lexicography, semantics or cognitive theories of metaphor. Informants were asked to estimate the closeness of meaning between each of twelve pairs of homonyms and polysemes, using a five point scale. They were also asked to provide comments. The full questionnaire and results are given in Appendix 1. I took the idea for the test from an experiment carried out by Lehrer (1974), but

used different pairs of lexical items. A further difference was that in my test no definitions of lexical items were given, in order to avoid suggestions of similarities or differences between the pairs. Informants based their estimates and comments solely on a corpus citation of each item. Where possible I chose citations that had been used as examples in a dictionary for learners of English (Sinclair *et al.* 1995), on the grounds that a trained lexicographer had selected them as central and typical instances. Where no suitable dictionary example was available, I chose naturally-occurring corpus citations. As in Lehrer's experiment, I found a high level of agreement among informants as to the semantic distance between homonyms, but much less agreement as to the distance between more closely related uses, such as most of the metaphorically related pairs. This meant that the results of the measurements of meaning were not statistically reliable for these pairs. The comments, however, provided some very interesting data and are now exemplified.

In order to elicit informants' intuitions about UNDERSTANDING IS SEIZING, I asked them to estimate the difference in meaning between, and comment on, **grasp** in the following citations:

He **grasped** both my hands.

The Government has not yet **grasped** the seriousness of the crisis.

Responses suggested that informants perceived the two senses as having a logical and natural link. Two comments were:

‘There is a clear link as both are linked with getting hold of something, be it something tactile in the first or something mental.’

‘Have same meaning, but one is physical and one emotional.’

One informant made the point that it is difficult to express the notion of understanding without using this metaphor:

‘Same meaning; when I try to replace ‘grasp’ I only get ‘seize hold of’, or ‘clutch’ and they also describe ‘grasping’ a concept.’

These comments are consistent with UNDERSTANDING IS SEIZING being a central conceptual metaphor. The last comment also provides some evidence for several of the related claims made earlier: that it is difficult to talk about some subjects at all without using a metaphor, and further that in talking about some subjects there is one dominant conceptual metaphor.

Other pairs of senses related by the conceptual metaphor EMOTIONS ARE TEMPERATURES produced similar comments, as did **flop**, realising BAD IS DOWN. Informants were shown the following citations:

Bunbury **flopped** down upon the bed and rested his tired feet.

The film **flopped** badly at the box office.

The following comments were typical.

‘Both suggest ‘down’.’

‘Flopped in both sentences is used as being negative.’

Comments such as these again suggest that the connection between source and target domains is natural and real to speakers. It is recognised that by itself this test is of very limited significance, but its findings are consistent with the linguistic evidence to be discussed now.

The contemporary theory of conceptual metaphors is also supported by a study of British Sign Language (BSL) (Brennan 1996). Brennan shows that in BSL, some signs for mental processes are systematically linked to signs for physical processes, but are situated alongside the head rather than at chest level, as in their ‘literal’ versions. This element of proximity to the head appears in signs such as **remember** and **forget**. Further, a metaphorical relation is clearly evident between the sign for literal **grasp** and the sign for **understand**. The sign used to express literal **grasp** ‘involves a grasping action of the hand going from open to closed fist’; while ‘ideas are understood as if they are objects to be grasped and this is manifested directly in a grasping action of the hand at head level’ (p. 5). Japanese sign language has a sign for metaphorical **grasp** that is very similar to the BSL sign (E. Honda, personal communication), which suggests that the connection between physically grasping and understanding is cross-cultural.

Brennan shows that many signs in BSL, in common with many words in English, can be traced to conceptual metaphors. BSL appears both to exploit signs for

‘literal’ uses, the equivalent of the English process, and to use signals of metaphoricity, such as proximity to the head indicating a mental process.

Elements such as these seem to be both metaphorical and iconic in origin: the sign (in Saussure’s sense) is not always arbitrary. Such conventionalised iconicity has no obvious parallel in spoken language, but is further evidence of the power of metaphor in motivating human expression. This evidence of metaphoricity in non-verbal languages is consistent with the argument that metaphor is central to thought and language.

Evidence from studies across a range of languages also suggests that some metaphorical transfers are widespread if not universal. Sweetser looks at the development of conventional ways of talking about mental processes, taking a diachronic and cross-linguistic perspective (1990). She finds that linguistic realisations of UNDERSTANDING IS SEIZING and other conceptual metaphors permeate the conventional lexis used to talk about mental processes in a number of languages. All the languages investigated in her study share body to mind mapping that follows the same paths: the same physical sense is mapped onto the same mental process. For instance,

In all Indo-European languages, the verb meaning ‘feel’ in the sense of tactile sensation is the same as the verb indicating general sensory perception. (1990: 35)

She also claims that the link between physical holding and intellectual understanding, as lexicalised in **grasp**, is ‘absolutely pervasive’ (p.28), giving as evidence linguistic metaphors from Latin, French, Greek and English. Sweetser

and other writers such as Lakoff and Turner (1989) and Gibbs (1992) argue that if there was no deep-rooted conceptual and experiential motivation for such semantic mappings, then more variation in mapping might be expected between different languages and at different times. The consistency of mapping suggests that the motivation for these linguistic metaphors is to be found in the most universal human experiences, which are bodily rather than cultural.

Finally, evidence from a study of language in use shows that the metaphorical use of **grasp** is frequent relative to its non-metaphorical use, and therefore well-established in the lexicon. This is an established phenomenon: lexicographers working with large corpora find that metaphorical senses are not unusually more frequent than their literal counterparts (Lewis 1993). For this study I analysed a random sample of 500 naturally-occurring citations of **grasp**, **grasps**, **grasping** and **grasped**, sorting citations by part of speech and then by sense. (See Chapter Five for a description of methodology.) Results are summarised in the following table.

Table 1.1 Senses of GRASP

Part of speech/ sense	Number of citations	Example(s)
Verbal		
1. Non-metaphorical	83	I grasped the door-jamb.
2. Metaphorical: 'understand'	170	<ul style="list-style-type: none"> • One of the important things for young people to grasp is the connections between the natural and human world. • They haven't grasped the essential point of all commercial enterprise, that to make a profit you must first invest.
3. Metaphorical/ metonymical: 'take' ¹	34	It is an opportunity he knows he must grasp or risk a humiliating return to the bench.
4. Ambiguous	4	-
5. idiom: 'grasp the nettle'	19	It is a difficult course to steer, but we have got to grasp the nettle and ask the rest of the community to help us.
6. idiom: 'grasp at straws'	3	I am a sick man, heating and lighting are expensive at this time of year and I was grasping at straws .
Nominal		
1. Non-metaphorical	14	The ball slipped out of his grasp .
2. Metaphorical: 'understanding'	107	Children are expected to show a good grasp of scientific vocabulary.
3. Metaphorical/ metonymical: 'possession'	56	<ul style="list-style-type: none"> • The title was within his grasp. • ...my fragile grasp on health.
Adjectival		
1. Metaphorical: 'avaricious'	10	...having to grapple with changing central government rules, grasping local officials and capricious business partners.

The table shows that the 'understand' sense of **grasp** is the most frequent overall, the nominal and verbal uses together accounting for 277 citations, or 59 percent of

all unambiguous citations. The metaphorical ‘understand’ use is slightly more frequent in the nominal use than for the verbal use, representing 60 percent of all nominal uses compared to 54 percent of all verbal uses in this sample. It seems safe to conclude that the metaphorical use of **grasp** to mean ‘understand’ is so well established in English as to be more frequent than the ‘literal’ use in current texts.

Features of linguistic metaphor which also arise in this corpus study of **grasp** include metonymic motivation, tendencies to idiom and grammatical changes. These areas are discussed in later chapters of this thesis.

In this section the argument that conceptual metaphors are central to thought has been examined in the light of various types of evidence, including linguistic expressions. Moving on to consider metaphor from a linguistic rather than a cognitive perspective, this discussion would seem to suggest that many linguistic metaphors can be accounted for by using the notion of conceptual metaphors.

1.5 METAPHOR AND LANGUAGE

In this section I attempt to outline the implications of the contemporary theory for the description of language, notably the areas of lexical meaning and lexical relations.

¹ The distinction between metaphor and metonymy is discussed in Chapter Two.

1.5.1 Creation of new lexis

It has long been recognised that metaphor plays an important role in the development of new lexical items. Ullmann considers metaphor to be the most important force in creating new meanings in language (1962: 202), and writers such as Kittay (1987) and Halliday (1994) observe that language is littered with words of metaphorical origin. Low notes that metaphor is important in ‘the creation and acceptance of technical terminology’ (1988: 128). Metaphor’s role in the generation of new technical language is also noted by Martin and Harré, who write that developing sciences often require language which is:

- (i) Meaningful to the user of the language without recourse to further experience
- (ii) And yet, somehow imbued with novel meaning (1982: 96)

and that only metaphor can fulfill both these requirements. An example of this is the term **web**, discussed above, which is used to refer to connections between different computers across the world. The lexeme is known to the user and meaningful through its sense of ‘spider’s web’, and yet also has a new meaning in the target domain.

1.5.2 The mapping of lexical fields

More significant than the generation of individual lexical items is metaphor’s apparent potential for revealing systematicity in the distribution of figurative lexis. If one underlying conceptual metaphor can be seen to motivate a number of linguistic metaphors, it should follow that semantic links will be discernible between this group of linguistic metaphors, which will form networks or systems

of some kind. A number of writers argue that such systematicity exists in linguistic metaphors (for example, Lehrer 1978, Lakoff and Johnson 1980, Kittay 1987, Gibbs and O'Brien 1990, Gibbs 1994).

Lakoff and Johnson provide numerous illustrations of this systematicity in their work (1980). For example, TIME IS MONEY is lexicalised by a number of expressions which originate in the source domain (money) and have been transferred metaphorically to the target domain (time). Systematicity is evidenced where lexical relations such as the antonymy of **save** and **waste** are consistent in each domain. Gibbs considers idioms such as **blow your lid** and **flip your stack**, and discerns systematicity in them resulting from their common motivation in the conceptual metaphors THE MIND IS A CONTAINER and ANGER IS HEATED FLUID IN A CONTAINER (1994: 162- 3).

The existence of apparently unrelated or contradictory expressions used to talk about the same notion is not evidence against this hypothesis, according to Lakoff and Johnson (1980). These expressions can be explained by the existence of several conceptual metaphors each covering aspects of the same target domain. For example, the varied figurative expressions through which love is talked about point to the existence of several different conceptual metaphors, such as LOVE IS MAGIC, LOVE IS A JOURNEY and LOVE IS A NUTRIENT. Presumably each conceptual metaphor is realised by a cluster of linguistic metaphors which show systematicity between themselves.

I have found preliminary evidence for metaphorical systematicity in areas such as talk about politics. A study of the use of lexical items from the source domain of horse-racing and gambling shows that many of these items are used metaphorically to talk about political campaigns. Examples are given in the following table.

Table 1.2 Linguistic metaphors from the field of horse-racing

Linguistic metaphor	Example (originally cited in Deignan 1995)
in the running, out of the running	At 48 he is too young to be in the running for Prime Minister. The ex-communists are really out of the running for some time to come.
neck and neck	For months, polls showed the two main parties neck and neck .
also-ran	It is the second largest party but it is likely to remain the also-ran forever if it goes on like this.
favourite	The Mayor of Ankara is the current favourite for the succession.
outsider	Until the election campaign started, he was an unknown rank outsider , having left the country twenty-one years ago.
odds	Nobody realized he was facing impossible odds .

In some citations, a number of lexical items from the same source domain are used metaphorically in a short span of text.

Dismayed Jesse drops out of **race** for NAACP top job. [headline]
The Reverend Jesse Jackson has dropped **out of the running** for the top job at the National Association for the Advancement of Coloured People (NAACP). The long-time civil rights campaigner, who was ranked as **favourite** for the job vacated by Ben Hooks...

Clusters such as this seem to be attractive evidence for the systematic distribution

of linguistic metaphors, generated by a conceptual metaphor such as AN ELECTION IS A HORSE-RACE.

However, further examination of these and related linguistic metaphors in use reveals a more complex picture, suggesting that any metaphorical system is open, and has loose and dynamic connections. Two types of evidence emerged; the first concerns exploitation of metaphorical ‘systems’, and the second concerns distribution of linguistic metaphors across different semantic fields.

It seems likely that metaphorical mappings are sometimes deliberately exploited by writers for humorous or other innovative effect. Lakoff and Turner argue that most, if not all, poetic and literary metaphor is created by producing new linguistic realisations of a conceptual metaphor that is already realised conventionally (1989). In a similar way, writers and speakers in non-literary contexts often attempt to create a humorous effect by extending a metaphor. This is done by using a linguistic metaphor which is not conventional but which is from the same semantic area as an existing conventional metaphor. This usually has the effect of foregrounding a conceptual metaphor that would normally be unmarked. In the following citation, the conventional linguistic expression **neck and neck** is used with the less conventionally metaphorical collocates **hurtling** and **finish**:

Election fever reaches its climax tomorrow - with the White House candidates **hurtling almost neck-and-neck towards the finish**.

Neck and neck is a conventional linguistic metaphor which is probably not usually considered figurative, as the metaphorical sense is frequent in relation to its non-metaphorical sense. (The expression occurs 296 times in the corpus studied, but is used in its literal sense, referring to horse-racing, in only eight of these citations.) The intended effect of using the less conventional metaphors **hurtling** and **towards the finish** is to remind the reader of the underlying conceptual metaphor AN ELECTION IS A HORSE-RACE and thus create humour by also invoking the literal sense of **neck and neck**. Both Lakoff and Turner's literary examples, and this journalistic one seem to suggest that metaphorical systems are dynamic rather than static, and that speakers regard conceptual metaphors as available for deliberate exploitation.

A second reason for regarding metaphorical systems as open and dynamic is found in the distribution and meaning of some linguistic metaphors. The use of the lexis of horse-racing in order to talk about politics, as discussed above, seems initially to suggest a neat mapping of conceptual domains. However, a detailed corpus examination of lexical items from the field of horse-racing shows that on the contrary the picture is far from neat; it is messy and sometimes apparently arbitrary. The six linguistic metaphors exemplified above: **in/ out of the running**, **neck and neck**, **also-ran**, **favourite**, **outsider** and **odds**; are not used exclusively to talk about politics but about many competitive areas of life. This might suggest that the conceptual metaphor should be rephrased as COMPETITION IS A HORSE-RACE. However even this more generalized metaphor does not seem to cover the linguistic evidence adequately, because the distribution of different

linguistic metaphors across different semantic fields within the broad target domain of competition is not even. For example, **neck and neck**, is largely but not exclusively restricted to politics, while **in the running** is often used to talk about commercial contracts as well as politics. **Odds** is used in several fixed expressions such as **the odds are**, **against all odds** and **to face [impossible/overwhelming/ enormous] odds**. This last metaphor is used mainly to talk about personal rather than public or commercial struggles in the texts which I examined. The distribution of linguistic metaphors across different sub-domains is not consistent and does not seem to be predictable from one underlying conceptual metaphor.

Further, the meanings of some linguistic metaphors in the field of politics are not predictable using the conceptual metaphor AN ELECTION IS A HORSE-RACE. Another linguistic metaphor which is derived from horse-racing and applied to politics is **first past the post**. This has developed a specialised meaning and is most frequently used to modify noun phrases such as **electoral system**. There is no corpus evidence that it is ever used in a sentence such as ‘Clinton was first past the post in 1992’, as could occur if the metaphorical system was a one-to-one mapping of race onto election, horse onto politician and so on.

This corpus-based study of AN ELECTION IS A HORSE-RACE suggests that the linguistic metaphors it generates could only be described as a system if ‘system’ is interpreted as open and loose and if some arbitrariness is allowed. However, I have only examined one small group of linguistic metaphors here; a

number of other groups of linguistic metaphors are examined in more detail later in this thesis.

1.6 SUMMARY

In this chapter I have looked at some of the major claims of the contemporary theory and I have evaluated them using evidence from various sources. They appear to stand up well to this examination. I have not yet considered the important and related notion of metonymy, and this will be looked at in the next chapter. I have not provided a definition of any rigour of the notion ‘metaphorical meaning’ or shown how this is distinguished from ‘literal meaning’. This point is considered in Chapters Three and Four.

In the last part of this chapter I outlined some implications which the contemporary theory seems to have for the study of lexis. I discussed a preliminary corpus study which attempted to see if these implications are realised in natural language data. The findings suggest that a model of one-to-one mapping of lexical items from source to target domain is an oversimplification. The second half of this thesis consists of studies which explore linguistic evidence for metaphorical mapping from various angles and attempt to establish to what extent the contemporary theory accounts for various observable features of linguistic metaphors.

2. METAPHOR AND RELATED CONCEPTUAL PHENOMENA

2.1 INTRODUCTION

In some work by the contemporary theorists, the term 'metaphor' is used to encompass a broad range of conceptual links. Jackendoff and Aaron criticise Lakoff and Turner's (1989) use:

... having drained from the term 'metaphor' much of its traditional content, Lakoff and Turner have created a theoretical construct so broad and unstructured that the term 'metaphor' may no longer be appropriate (1991: 331)

In particular, conceptual metaphor is liable to become confused with three closely related phenomena: analogy, folk theories and metonymy. These play a similar role to conceptual metaphor in some versions of the model of cognition developed by contemporary theorists, and as a result the distinction between them and conceptual metaphor sometimes seems to become blurred. This confusion is undesirable in a study of linguistic metaphor, because conceptual metaphor seems to be special in its effects on language. Neither analogies nor folk theories seem to have any significant impact on the lexicon. While metonymy does appear to influence conventional language, it seems to involve a different type of mental mapping from conceptual metaphor, possibly resulting in linguistic expressions of a different nature.

In the first part of this chapter, analogy and folk theories are distinguished from conceptual metaphors. They are not discussed further in this thesis. In the second part of the chapter, an attempt is made to distinguish metonymy from metaphor. Some implications of metonymy for language description are suggested, a consideration especially important in the light of Gibbs' assertion that the power of metonymy has been underrated in recent research (in press).

2.1.1 Metaphor and analogy

In the attempt to draw a distinction between metaphor and analogy, a starting point is provided by Gentner. She addresses the difference in her paper 'Are scientific analogies metaphors?', characterizing scientific analogies as

...structure mappings between complex systems. Typically, the target system to be understood is new or abstract, and the base system in terms of which the target is described is familiar and perhaps visualisable. (1982:108).

Gentner argues that relational predicates are mapped so that an understanding of how entities in the source domain relate to each other helps us to perceive relations between entities in the target domain. To be useful, the mapping should be clear, with only one possible interpretation, whereas good literary metaphors are rich, in that a number of interpretations are possible. Her description of structure mappings in scientific analogy has much in common with the contemporary view of conceptual metaphor, in which mappings from source to target domain can also be one-to-one; that is, clear, rather than rich. This suggests that while Gentner's model distinguishes analogy from literary metaphor, further

criteria are necessary to distinguish analogy from conceptual metaphor

Gentner's discussion focusses throughout on the process of understanding and using a scientific analogy, and it is in this process that one useful distinction between analogy and conceptual metaphor can be drawn. An analogy is essentially a statement of similarity; it is created and explored consciously, and often its usefulness or otherwise is evaluated. The scientists who compare the human brain to a computer, in Low's discussion (1988), or the designers who thought of a paintbrush as a pump in Schon's work (1993) made the link consciously, for a specific purpose. This deliberate and purposeful linking between two domains seems to characterise analogies but it is not a feature of conceptual metaphors, which are usually learnt and understood subconsciously. Analogies could be regarded as a subset of 'metaphor' in its broadest sense, but are distinct from the conceptual metaphors discussed here. The term *conceptual metaphor* is here reserved for connections that are generally held at the level of everyday, unanalytical thought, rather than connections that are set up consciously. This distinction could be described as a 'process' criterion as it concerns the mental processes involved in using analogies and conceptual metaphors.

The linguistic level produces a further criterion for distinguishing analogy from metaphor. Lakoff and his followers use linguistic metaphors as the main source of evidence for the existence of conceptual metaphors. I shall take this argument a stage further and use the existence of linguistic metaphors as a necessary

condition for a mental mapping to be labelled a conceptual metaphor. By this condition, mappings such as ‘a paintbrush is a type of pump’ (Schon 1993) are not conceptual metaphors because they do not seem to produce linguistic metaphors. For instance, **pump** is not conventionally used to refer to a paintbrush. This distinction refers to the linguistic products of analogies and conceptual metaphors and is therefore referred to here as a ‘product’ criterion.

Using both process and product conditions, the popular idea of electricity as water can be seen to be a conceptual metaphor rather than an analogy. By the ‘process’ criterion it is a metaphor because most language users do not deliberately set up this similarity in order to reason about the behaviour of electricity, although they can do this if asked, as in Gentner and Gentner’s experiments discussed in the previous chapter (1983). By the ‘product’ criterion, **ELECTRICITY IS WATER** is a conceptual metaphor because it is conventionally realized by lexical items such as **flow** and **current** which are used in the field of water and also to talk about electricity.

Some analogies may become conceptual metaphors eventually. For instance, Low’s example of the connection between the human brain and a computer has characteristics of analogy if used for research purposes as he describes. It may well become a conceptual metaphor over time, if ‘a computer’ enters the generally-held notion of what a brain is, rather than what it can be usefully be compared to. Lexis from the field of computers might then be regularly and conventionally used to talk about the brain.

Like analogies, metaphors are sometimes explored for teaching and learning purposes. For example, in teacher training the metaphor of a learner as an empty vessel is often explored so that teachers can discuss the beliefs about teaching and learning that this assumes, and examine these. However, unlike an analogy, this metaphor already exists at the conceptual level, and is evidenced linguistically in expressions such as **cram** meaning ‘study’. The point of the training exercise is to explore existing beliefs and their entailments rather than to project a new model onto the domain of learning. Because of this, **THE LEARNER IS AN EMPTY VESSEL** is a conceptual metaphor, not an analogy, despite its occasional conscious use in training.

2.1.2 Metaphor and folk theories

In some of the work of the contemporary theorists, ‘metaphor’ seems to be used by implication to refer to informal popular theories and other notions shared by members of the same culture, termed *folk theories*. For instance, Lakoff and Johnson write of:

...the Biblical eye-for-an-eye folk theory of retributive justice:

‘ONLY AN INJURY IN LIKE MEASURE AND OF LIKE KIND CAN REDRESS THE IMBALANCE OF JUSTICE’. (1987: 77- 78)

This appears in a paper in which Lakoff and Johnson use spoken data to demonstrate that mainstream American ideology includes conceptual metaphors such as **PHYSICAL APPEARANCE IS A PHYSICAL FORCE** and folk theories

such as A WOMAN IS RESPONSIBLE FOR HER PHYSICAL APPEARANCE. Lakoff and Johnson show how these interact to produce an apparently logical (but in fact flawed) justification for rape. In their study conceptual metaphors and folk theories are not distinguished in their role in reasoning. This implicit equation of folk theories with metaphors may be justified for the purposes of Lakoff and Johnson's argument but nonetheless it is important to emphasise that folk theories are not metaphors; they are not mappings of one domain onto another, but vaguer statements of general belief.

At the level of language, folk theories do not seem to produce linguistic metaphors, although it is possible that they generate other types of linguistic expression, such as aphorisms. The difference is illustrated by the examples used in the paper by Lakoff and Johnson cited above. The conceptual metaphor PHYSICAL APPEARANCE IS A PHYSICAL FORCE is realised in linguistic metaphors such as **be drawn to**, **be magnetised by**, or **be knocked down by** (someone physically attractive). On the other hand, the folk theory A WOMAN IS RESPONSIBLE FOR HER PHYSICAL APPEARANCE does not seem to be realised in any conventional lexis.

2.2 METONYMY

In this section I look briefly at a definition of metonymy used within the contemporary theory and show that this seems to share one of the central features of metaphor described in the previous chapter. This overlap is problematic as metaphor and metonymy are often considered as opposing. I attempt to resolve this apparent contradiction, developing a system for categorising into four groups the various types of linguistic expressions that are motivated by metonymy.

2.2.1 Definition and examples of metonymy

Metonymy is defined by Gibbs as the process by which:

People take one well-understood or easily perceived aspect of something to represent or stand for the thing as a whole. (1994: 320)

It is often illustrated with examples such as

... the use of **Whitehall** to refer to the British government, or **the White House** to refer to the US president and the presidential aide. (Moon 1987a: 99)

A frequently-cited example of metonymy is the use of **ham sandwich** to refer to a restaurant customer in the following utterance:

‘The **ham sandwich** is sitting at table 20.’ (Nunberg 1979: 149)

Examples of metonymy are plentiful in naturally-occurring data. For instance, in the following citation, **stage** and **screen** stand metonymically for the theatrical and cinematic industries.

Storm was a successful writer for **stage** and **screen** from the 1930s to the 1950s.

In the following citations, **university** and **auction house** stand metonymically for people who work in those institutions.

We didn't want to get into a horrible shouting match with the whole **university**.

The clash came when the smaller **auction house** attempted to put a gloss on poor figures.

In the contemporary view, it is argued that metonymy plays an important role in structuring thought and in this respect is similar to metaphor (Lakoff and Johnson 1980, Gibbs 1994). However the two tropes seem to differ in the type of mental mapping involved. It is generally held that metaphor involves mapping across domains and finding similarity in essentially unlike entities, while Gibbs claims that metonymy is an interdomain phenomenon (1994). For instance, the metonym **stage** is from the same domain as the entity 'theatrical industry', for which it stands in the above citation. In an example of linguistic metaphor quoted earlier in this chapter, **be magnetised** is taken from the source domain of physical force and is mapped onto the different domain of sexual attraction. This distinction can also be phrased in terms of gaps and continua in meaning; while metaphor is a relationship formed across a semantic gulf, metonymy is a relationship of continuity.

When this distinction is examined in the context of the contemporary theory of metaphor however, it seems to lose clarity. It was argued in the previous chapter that many of the most generic conceptual metaphors are grounded in physical experience, albeit sometimes a culturally mediated version. For instance, EMOTIONS ARE TEMPERATURES is said to be grounded in the physical sensations we have when we experience various feelings (Lakoff 1987a, Gibbs 1993, 1994). This conceptual metaphor equates heat with feelings such as anger and lust, and cold with unfriendliness. At the linguistic level, this means that a word describing the physical sensation associated with an emotion is used to stand for the emotion. In the following citation, **heated** is used to convey the meaning ‘angry’.

I vividly remember having a **heated** debate with my boss.

If the motivation for this use is that experiencing sensations of increased body temperature is an aspect of becoming angry, the choice of **heated** could be interpreted as using an ‘aspect of something to represent or stand for the thing as a whole’ (Gibbs 1994, quoted above). By this argument, the use of **heat** to talk about anger is an interdomain mapping not a cross-domain mapping. It would therefore be a metonym, and not a metaphor in the generally understood sense. The same problem arises for **be magnetised**, used to refer to sexual attraction, which was quoted above as an example of cross-domain mapping. Like **heat**, this trope may also be grounded in physical experience and could therefore be regarded instead as interdomain mapping.

If the notion of metonymy were to be interpreted in such a broad sense as this argument implies, the category would include a large set of figurative linguistic expressions usually considered metaphorical. This leads to a reappraisal of the definition of metaphor. If the presence of cross-domain mapping is maintained as a necessary condition, the category of metaphor becomes much smaller than at present, and is limited to tropes which do not have any grounds in physical experience. In the contemporary theory, tropes which have grounds in physical experience are likely to be more significant to thought than those which do not (Lakoff 1993). Therefore, if tropes which have grounds in physical experience are taken from the category of metaphor and recategorised as metonyms, metaphor becomes a relatively insignificant category for cognition. On the other hand, if cross-domain mapping is no longer regarded as a necessary condition for metaphor, the opposition between metaphor and metonymy largely disappears. In this scenario, if a strong version of Lakoff's theory of the motivation for metaphors in physical experience is accepted, then far from being opposed, metonyms and metaphors will tend to form an identical set. Neither of these solutions to the problem of redefining metaphor in the light of metonymy seems satisfactory. Both seem to reduce metaphor to a notion of minor or ambiguous significance, which runs counter to the intuitions of most researchers.

The inconclusive nature of this discussion suggests that the accepted distinction between metaphor and metonymy is over-simplistic. It seems clear that some expressions traditionally regarded as metaphors have an element of metonymic

motivation. However it does not seem particularly helpful to reclassify these as metonyms, as this would lead to the counter-intuitive placing of **heated** ('angry') in the same category as **ham sandwich** ('customer who has just consumed a ham sandwich') and in a different category from linguistic metaphors such as the realisations of AN ELECTION IS A HORSE-RACE, which are not motivated by physical experience. A more delicate classification than a straight metaphor-metonymy split is clearly needed. This classification must distinguish clear-cut cases of metonymy such as **ham sandwich**, **Whitehall**, **stage** and **screen** from unambiguous cases of metaphor, and must also account for more complex cases such as metaphors with metonymic motivation, recognising that some linguistic expressions share features of both.

A system for classifying linguistic expressions which are metonymically motivated has been developed. This contains four classes of expression, which can be grouped into two pairs. Each of the four classes is now described and exemplified. The description moves from the most prototypically metonymic class through to a class which borders the metonym-metaphor distinction.

2.2.2 Non-conventional metonyms

The first class comprises non-conventional or innovative metonyms, such as **ham sandwich**. Metonyms of this kind can only be interpreted in context because their non-literal use is not an established sense of the term. For instance, ‘customer’ is not a generally-recognised sense of **ham sandwich**, and so Nunberg’s **ham sandwich** is only interpretable as referring to a customer either through the context ‘is sitting at table 20’, or through non-linguistic context, where, for example, the speaker indicates gesturally that the referent is a person. Nunberg makes this point, arguing that there is ‘nothing in the lexical entry for **ham sandwich** [...] about restaurants’, and that a pragmatic account of this use is needed ‘which would have to look at the properties of things, rather than the words that designate them’ (1979: 149).

A further example of this category is **packed lunch**, in ‘Alex is a packed lunch’ (Cameron 1997). This utterance is difficult to decode without a knowledge of context, but is easily interpreted with the knowledge that the speaker is a teacher, Alex is a pupil and that the teacher is checking the eating arrangements of each pupil in her class.

Gibbs argues that our ability to refer metonymically in this innovative way is important for a theory of cognition (1993, 1994). It may be less important for language description. It seems unlikely that members of this class normally become conventionalised and move into the next class, conventional metonyms, as their distinguishing feature is that they have a specific, context-bound

interpretation, not a general meaning. A metonym in this class is generally a temporary label for an individual referent; it is given its interpretation through features of the immediate context. Unlike conventional metonyms, its meaning does not concern permanent aspects of the referent. However, these non-conventional metonyms are probably formed through the same processes as conventional metonyms, discussed in the following section.

2.2.3 Conventional metonyms

The class of conventional metonyms includes uses such as **Whitehall**, **the university** and **the screen**, mentioned above. Like unconventional metonyms, conventional metonyms literally refer to an aspect of the entity that they stand for; for instance **the screen** refers to an important part of a building closely associated with the cinematic industry. This metonym is conventional rather than unconventional because screens are permanently and generally associated with the cinematic industry. Because members of this class of metonyms have a conventional meaning, hearers do not have to search linguistic or non-linguistic context to retrieve the referent as they do to interpret members of the previous class. This is evidenced in contemporary dictionaries, which include the non-literal meaning of widely used conventional metonyms such as **Downing Street** (referring to the office of the British Prime Minister) and **the screen** (Sinclair *et al.* 1995).

Metonyms seem to be generated through one of several conceptual links. Lakoff and Johnson include the following processes (1980: 36- 39). The examples quoted

are from the same source.

PRODUCER FOR PRODUCT

He bought a **Ford**.

INSTITUTION FOR PEOPLE RESPONSIBLE

You'll never get **the university** to agree to that.

THE PLACE FOR THE INSTITUTION

The **White House** isn't saying anything.

Wall Street is in a panic.

THE PLACE FOR THE EVENT

Pearl Harbor still has an effect on our foreign policy.

THE PART FOR THE WHOLE

This type of metonymy is sometimes referred to as synecdoche. A term normally referring to part of an entity is used to stand for the whole entity. Gibbs' examples include the uses of **hand**, **head** and **door** to stand respectively for 'worker', 'person' and 'house' in the following utterances:

They're taking on **hands** at the factory.

We had to pay ten dollars a **head** just to get into the concert.

Mary Sue lives four **doors** down the street. (1994: 322-323)

THE OBJECT USED FOR THE USER

The **buses** are on strike today.

The **gun** he hired wanted fifty grand.

This is probably not a complete list of the links existing between metonyms and their referents. If, as Gibbs argues (1993, 1994), metonymical thinking is natural to the human mind, it is likely that there are numerous ways in which an aspect of something can be connected to the whole for which it stands.

Non-conventional metonyms are also generated by processes such as these. For instance, THE OBJECT USED FOR THE USER is exemplified with ‘The **sax** has flu today’ (Lakoff and Johnson 1980: 38), where **sax** refers to a saxophone player. There may be a degree of fuzziness at the boundary between conventional and unconventional metonyms, particularly as within some registers particular metonyms may have become conventionalised terms of reference. For instance, it is reported that medical professionals regularly and conventionally refer to their patients metonymically by the names of the condition which they are suffering from (B. Jackson, personal communication), a use which would be unconventional in non-medical discourse.

As the mapping in both this and the previous class of trope is clearly interdomain, the label ‘metonymy’ seems uncontroversial. Examples of metonymy quoted in the literature are usually from one of these two classes. The following two classes

are less straightforward.

2.2.4. Metaphorical metonyms

Most of the items in this and the next class might be described as idioms or metaphors in the literature, but, as was argued above, seem to have a physical experiential basis which might alternately justify their classification as metonyms. However, they are also problematic for standard definitions of metonymy because although a continuum of meaning seems to exist, the mapping which they realise could be considered cross-domain.

The first of these two classes is termed here *metaphorical metonyms*. As this label suggests, I consider expressions in this class to be essentially metonyms. However, they seem to have an element of metaphoricity not shared by the two previous classes of metonyms.

To exemplify this class, I have examined linguistic expressions which contain lexis from the source domain of bodily sensations, processes and actions¹. I analysed these using corpus citations (Study 4)². The linguistic evidence shows that this domain is mapped onto a number of target domains, including the domain of emotions. This mapping is an important one in the class of metaphorical metonyms because it is realised in a large number of relatively frequent linguistic expressions.

¹I am indebted to R. E. Moon of Collins Cobuild for her observations about this source domain, which led me to conduct this study.

²An earlier version of this study was published as Chapter One of Deignan 1995.

The mapping of bodily sensations, processes and actions onto emotional or mental states is at least partly metonymic, in that the figurative interpretation of each of its linguistic realisations can be traced to its literal sense. In each case, the literal sense refers to a bodily sensation or process which we feel, or action which we take, when we experience a particular mental or emotional state. The figurative sense refers to the associated mental or emotional state. Because the literal referent of the expression is closely and regularly associated with the figurative referent, few citations are unambiguously literal or figurative in the context of use. In some citations it is difficult for the reader to determine whether the literal or figurative sense, or both, was intended, and it seems possible that we do not attempt to distinguish the literal and the figurative when encoding or decoding such expressions in real time.

The expression **take a deep breath** is one such metaphorical metonym, and the following citation shows ambivalence between literal and figurative senses.

Most of us sit down glumly from time to time and deal reluctantly with the most pressing item. After **taking a deep breath**, we write a cheque, post it and then relax in the knowledge that one payment, at least, is behind us.

The expression seems to have its motivation in bodily experience. For some physiological reason, when we embark on an action which is risky or unpleasant we often, literally, take a deep breath. The physical symptom is used to stand for the feeling, and this association is lexicalised in the linguistic expression. Other expressions which relate breathing to emotions in this way include **hold one's**

breath and take one's breath away.

She had been **holding her breath** and hoping that the agreement would be signed.

It's so beautiful it **takes your breath away**.
(cited in Moon, 1995: 48)

Other linguistic expressions from the source domain of bodily sensations, processes and actions which can be interpreted as either literal or as figurative in some contexts include:

turn one's back

put on a brave face

bite one's lip

breathe/ give a sigh of relief

look over one's shoulder

rub shoulders with someone

send/ feel a shiver down one's spine

The difficulty in deciding which sense is intended arises in the analysis of citations of many linguistic expressions which refer to bodily actions (R. E. Moon, personal communication). Kittay gives a similar example, pointing out that there are circumstances in which the expression 'His hands were tied' could be understood as either literal or metaphorical or both (1987). (Kittay's example and the examples found in this study show that there is a strong tendency for these expressions to be multi-word items. This point is investigated in Chapter Seven.)

The study of concordances of each of the above expressions revealed a cline from literal to non-literal use. At the literal end of the cline are uses in which it seems clear that the expression denotes a physical action. The emotions or mental states usually associated with the action are probably evoked, so the use could be considered to have both literal and non-literal reference. At the other end of the cline are some uses in which context makes a literal interpretation seem unlikely. The following citations of **bite one's lip** illustrate such a cline.

1. Greenway had other things on her mind. Throughout the discussion she had been **biting her lip**.
2. **Biting her lip**, she checked her impatience.
3. I know better than most how difficult it is to **bite your lip** and turn your back on all the name-calling.

Biting one's lip has an association, presumably grounded in physical experience, of restraining an emotional response of either distress or anger (Sinclair *et al.* 1995: 973). The writer of the first of the above citations may have intended the expression to evoke this association but appears to be using the expression primarily in its literal sense. In the third citation it seems likely that the expression is intended metonymically, referring to restraining an expression of anger. The second citation is ambiguous and seems to be intended as a reference to both the literal and figurative interpretations.

The cline between a literal and a figurative interpretation of the above expressions is reminiscent of the continuum associated with metonymy rather than the gap between senses associated with metaphor. Further, the grounds for their figurative

senses seem to be explained by Gibbs' definition of metonymy (quoted above), whereby

People take one well-understood or easily perceived aspect of something to represent or stand for the thing as a whole. (1994: 320)

For these reasons, the above expressions are regarded here as metonyms rather than metaphors.

However, expressions such as these differ from those in the previous two classes in that there is a mapping of concrete experience onto abstract experience.

Unfortunately there is little attempt to define exactly what is understood by a domain in the literature within the contemporary theory, and, as Gibbs notes, this concept should perhaps be explored more rigorously (in press). There seems to be a tacit understanding however that mappings which cross the concrete-abstract divide are cross-domain, even where it is claimed that the motivation for the mapping is physical experience. For instance, in his detailed discussion of figurative expressions for anger from the source domain of heat, Lakoff refers to cross-domain mapping a number of times (1987a). Similarly, Sweetser seems to imply throughout her discussion of meaning development that a move from concrete to abstract meaning constitutes a cross-domain development (1990). In the contemporary theory, cross-domain mapping is equated with metaphor (Lakoff 1993), and hence in that sense, the expressions discussed here are metaphorical.

It seems then that the expressions discussed here exemplify both interdomain and cross-domain mapping, having therefore features of both metaphor and metonymy. Because of the strength of the association between literal and non-literal meanings, they are considered here to be metonyms with metaphorical features, as distinct from the expressions in the following class, which are metaphors with metonymic motivation.

2.4.5 Metonymically-motivated linguistic metaphors

The linguistic expressions described in this section, like the metaphorical metonyms of previous class, share features of metonymy and metaphor and so cause problems for a model which draws a sharp distinction between the two tropes. However, members of this class seem to tend further towards metaphor than expressions in the previous class. Like metaphorical metonyms, the expressions considered here seem to be grounded in physical experience, but unlike those expressions, there does not seem to be a continuum of meaning between the literal and figurative senses and hence ambiguity of interpretation is rare. Because of this semantic gap between their literal and non-literal meanings, these expressions are considered to be linguistic metaphors rather than metonyms. As they are grounded in physical experience, they are referred to in full as *metonymically-motivated linguistic metaphors*.

The class is exemplified first by the item **heated**. This item almost certainly realises the mapping EMOTIONS ARE TEMPERATURES in which anger is spoken about using the lexis of heat. A concordance of 500 Bank of English

citations of the adjectival form of **heated** was analysed (Study 5), and most citations were found to be accounted for by two major senses. These were a literal sense, describing entities which are physically warm, and a figurative sense, denoting anger or emotional tension. Most instances of the figurative sense modify nouns denoting speech events such as debates or arguments. The following four citations show that a very small amount of context is necessary in order to decide whether a literal or figurative interpretation is appropriate in each case.

1. For instance, I found myself in **heated** argument the other day over
2. I rose at 5 a.m. to battle with **heated** rollers and the few
3. orrison was behind schedule. <p> A **heated** telephone exchange between
4. special offers every month on **heated** towel rails and selected

The lexical words occurring most frequently to the right of **heated** fall clearly into one of two groups: physical entities or speech events. This also suggests that there is not a continuum of meaning between the two senses. The following list gives these collocates and in brackets the frequency of each in the slot immediately to the right of the node in the 500 citations studied.

debate (47) oven (22) arguments (11) pool (11) argument¹ (10) discussion (8) propagator (7) exchanges (6) swimming (6)

The notion of semantic continua and gaps is discussed in more detail in the following two chapters, but even without a detailed description of these terms it seems clear that in this case there is a semantic gap between the two senses, demonstrated by the existence of two distinct groups of collocates. This figurative sense of **heated** is therefore termed a linguistic metaphor although its motivation is originally metonymic.

It seems likely that a mapping which is grounded in physical experience can generate both linguistic metaphors and metaphorical metonyms. For instance, the mapping EMOTIONS ARE TEMPERATURES which generates **heated** also generates metaphorical metonyms such as **be hot under the collar**. There is a continuum of meaning between the literal and figurative senses of this expression, as can be seen in the following citation.

Judges are **hot under the collar** about proposals to alter their pension arrangements.
(cited in Moon 1995: 79)

Here the expression could be interpreted as literal, figurative or both, an ambiguity which places it in the previous class, metaphorical metonyms.

Similarly, the mapping of bodily sensations, processes and actions onto emotional and mental states, which generates the metaphorical metonyms discussed in the

¹ **Argument** and **arguments** have been counted as separate lexical items because it has been noted that different inflectional forms of lexemes sometimes appear in different collocational patterns.

previous sections, also generates linguistic metaphors. Study 4, a corpus analysis of these expressions, suggests that a number of lexemes, including **swallow** and **digest**, have metaphorical senses motivated by this mapping. The following citations¹ illustrate this point.

The financial community here in Britain has been **digesting** the latest inflation figures.

The police said they think it's a hard story to **swallow**.

I **swallowed** my disappointment quickly.

In each citation, the expression in bold type is unambiguously figurative.

Although the expressions are probably grounded in physical experience and therefore metonymically motivated, the semantic gap between these figurative uses and their literal uses leads to their classification as linguistic metaphors.

2.2.6 Summary of classification of metonymically-motivated expressions

I have argued that the categories of metonymy and metaphor are not opposed, as frequently suggested. I have tried to show that a number of linguistic expressions realise features of both metaphor and metonymy to varying degrees. I have isolated and described the major types of expressions found in my corpus studies, using a four-way classification. I acknowledge that there may be small numbers of expressions which lie between the four classes. The model is summarised in the following table.

This point is developed in Chapter Eight.

¹These citations were originally quoted in Deignan 1995: pp. 16- 17.

Table 2.1 Classification of metonymically-motivated expressions

Label	Characteristics	Example
Non-conventional metonyms	<p>Interpretation dependent on context.</p> <p>Reference to temporary or normally non-salient aspect of referent.</p>	<p>ham sandwich</p> <p>‘The ham sandwich is getting impatient for his check’ Nunberg 1979</p>
Conventional metonyms	<p>Concrete-concrete interdomain mapping.</p> <p>Interpretation not dependent on context.</p> <p>Reference to permanent, generally known aspect of referent.</p> <p>Metonymic use often an established sense of lexeme.</p>	<p>Screen</p> <p>Storm was a successful writer for stage and screen from the 1930s to the 1950s.</p>
Metaphorical metonyms	<p>Concrete-abstract mapping.</p> <p>Mapping grounded in physical experience.</p> <p>Mapping both interdomain and cross-domain.</p> <p>Interpretation often ambiguous between literal and figurative use: continua of meaning between the two.</p>	<p>bite one’s lip</p> <p>Biting her lip, she checked her impatience.</p>
Metonymically-motivated linguistic metaphors	<p>Concrete-abstract mapping.</p> <p>Mapping grounded in physical experience.</p> <p>Mapping both interdomain and cross-domain.</p> <p>Interpretation rarely ambiguous between literal and figurative use: semantic gap between the two.</p>	<p>heated</p> <p>I found myself in heated argument the other day.</p>

2.3 CONCLUSION

In this chapter I have attempted to disentangle the notion of metaphor from other closely related tropes and conceptual links. I intend to exclude the links described as analogy and folk theory from the remainder of this thesis. This is because they do not appear to contribute to the development of the lexicon in any significant way except possibly indirectly through influencing the formation and adoption of conceptual metaphors. I also intend to disregard the first two classes of metonyms. Although the second of these classes does include expressions that have become part of the conventional lexicon, these are not the result of cross-domain, metaphorical mapping, the central concern of this thesis.

The third and fourth classes of metonymically-motivated linguistic expressions are of interest to this thesis, as is the distinction between them. Although I consider the third class to be essentially metonyms rather than metaphors, it is motivated to some extent by metaphorical mechanisms, and its members share conceptual mappings with some linguistic metaphors. The fourth class, metonymically-motivated linguistic metaphors, comprises a large proportion of all linguistic metaphors. Except where the distinction is significant to the analysis of corpus data, these expressions are not generally distinguished in later studies from linguistic metaphors realising non-metonymic mapping.

3. THE DIVISION OF MEANING

3.1 INTRODUCTION

In Chapters One and Two, the relevance of the contemporary theory for a description of linguistic metaphor was outlined. Those discussions provide a broad framework within which a definition of linguistic metaphor can be developed. One central point which still remains to be clarified is the distinction between metaphorical and literal meaning at the linguistic level and from a synchronic perspective. Up to this point, uses such as **grasp** in utterances such as ‘He grasped the idea’ have been referred to as ‘linguistic metaphors’ without defining what is meant by a metaphorical, as opposed to literal use. In order to examine conventional metaphoricity in linguistic data with consistency, an explicit model of metaphorical meaning is necessary.

Metaphor by definition involves a transference or change of meaning and therefore only a sense of a lexeme which has a meaning that is distinct from a literal meaning can be regarded as metaphorical. This means that the model should be capable of showing which uses of a lexeme constitute distinct senses. It should then determine which independent senses are metaphorical, and to what degree. In this chapter I consider the first problem, the division of meaning, and in Chapter Four I go on to develop a framework within which distinct senses of lexical items can be classified according to the degree of metaphoricity they display.

3.2 VIEWS OF MEANING DIVISION

The apparently conflicting decisions about meaning division reached in theoretical studies and in practical exercises show that there is little agreement as to how the meanings of potentially polysemous lexemes should be split. At one extreme, Ruhl has argued that there is a strong tendency for words to have a single meaning which should not be confused with the ‘meanings’ which a word takes on in different contexts (1989). He finds a common core of meaning in uses which are often considered as separate senses of a lexeme, arguing that any discernible differences in meaning between uses are the product of context rather than intrinsic to different ‘senses’ of the word. Béjoint similarly argues that a word can refer to different concepts ‘and still be sufficiently unified in meaning to be considered monosemous’ (1994: 228).

The monosemy view is rejected by writers within the contemporary theory of metaphor, who point out that it is unfalsifiable. The single meaning which is said to unify different uses of a lexeme is in some cases so abstract that it cannot even be specified, and so its existence or otherwise cannot be proven (Gibbs 1994). Lakoff (1993), Gibbs (1994) and Sweetser (1990) explain polysemy in terms of metaphorical and metonymic mapping and other conceptual links, which are explored and exemplified in detail by Lakoff (1987a). However the interest of polysemy for cognitive linguists lies in what it demonstrates about the mind rather than as a linguistic phenomenon and because of this there does not seem to be any

detailed attempt within the contemporary theory to develop a rigorous method for identifying distinct senses of a lexeme.

The identification of distinct senses is central to the work of lexicographers, and a belief that many words are highly polysemous seems to be suggested by choices made about the division of entries in a number of dictionaries. Moon shows that a tendency to split lexemes finely is growing, with modern dictionaries making more splits than older dictionaries (1987b). While not all entry divisions are made on the basis of perceived difference in meaning, many splits do seem to reflect fine semantic distinctions. In the entry for **light** in the *Oxford Advanced Learner's Dictionary* (fifth edition) for example, 'easy to move, not heavy' and 'of less than average weight' are split into separately numbered sense divisions (Crowther *et al.* 1995: 682). Moon (1987b) claims that **light** has only a small number of core senses, and argues that fine splitting of meaning such as the above does not always reflect native speakers' perceptions of a word. Clearly, however, the existence of conflicting decisions about meaning division does not imply that one or other model is flawed; each model may be appropriate for its purpose. Moon points out that

... there are no final or absolute answers to the question of how many senses words have, or how they should be divided. (1987a: 86)

Ruhl's 'monosemy' model and the modern lexicographical approach of splitting meaning very finely are placed at opposite extremes of a cline. Neither of these models accommodates the analysis of metaphor particularly well, for several

reasons.

Under the monosemy position, almost all instances of a lexeme which can be seen to have any kind of semantic relation are considered to be expressions of the same sense. This would mean that linguistic metaphors which retain semantic links with a literal use would be grouped with that use: it would not usually be possible to distinguish established conventional linguistic metaphors from their literal counterparts, or from innovative metaphors. Without being able to isolate linguistic metaphors consistently it would be very difficult to analyse them.

On the other hand, models which split very finely often make multiple separations on the basis of factors which are not relevant to the study of metaphorical meaning, such as pragmatic usage or meaning distinctions made in other languages. This tends to produce a distracting multiplicity of senses. For the purposes of this thesis, an intermediate model of sense division needs to be established, one which splits most uses that speakers seem to intuitively recognise as metaphorical from their non-metaphorical counterparts but which does not allow unnecessary proliferation of senses.

3.3 ETYMOLOGY AND MEANING DIVISION

Etymology has traditionally been used by lexicographers as a guide to meaning division, in particular to separate cases of homonymy from polysemy. Homonymy arises where a word form has two or more meanings that are so different from each other as to suggest that they should be treated as different words whose orthographic and phonological forms happen to coincide. A pair which is usually considered to be homonymous is **bank** (of a river) and **bank** (place to keep money). Using etymological criteria, these are homonyms because **bank** (of a river) is of Germanic origin while **bank** (place to keep money) is of French origin (Little *et al.* 1973).

However, what is known about the etymology of lexical items is not always consistent with observations about their current meanings. Inconsistencies are of two types. There are a number of pairs of formally identical lexical items which appear to be semantically related but whose origins are distinct. Although most speakers probably regard these items as senses of the same word, by an etymological criterion they are homonyms. A frequently-cited example is the case of **ear** (on the head) and **ear** (of corn), which have separate historical roots but which are considered by many speakers to be related on the grounds of the similarity of shape of their referents (Zgusta 1971, Leech 1981). The opposite case also occurs, when etymologically related items have diverged semantically to the point where many speakers consider them to be different words. Sweetser gives the example of **cardinal** (high-ranking priest in the Roman Catholic church)

and **cardinal** (number), which seem to have no semantic link for modern speakers, but which are both descended from the same origin, a term meaning ‘hinge’ (1986).

In this thesis, the existence or otherwise of plausible semantic links between current meanings will override etymological facts in making decisions about the relatedness of lexical items, for several reasons. Firstly, this is a synchronic study of late-twentieth century English rather than a diachronic study and so etymology is largely irrelevant except where it can be detected in current meaning relations. Furthermore, it seems that for many speakers etymology is not an important factor in developing models of semantic relations. Goatly also holds this view. He shows that **vice** (tool for gripping objects) and **vice** (depravity) are historically unrelated. He nonetheless treats them as metaphorically related, arguing that

language users are capable of making metaphorical connections, constructing folk etymologies, in spite of the historical facts. Presumably the personification of abstract vices [...] has led to phrases like *in the grip of a vice* meaning ‘addicted to depravity’. (1997: 33)

I found evidence for Goatly’s argument in a study of native speakers’ intuitions about word meaning (Informant Study 1). Informants were asked to read the following pairs of Bank of English citations and judge the degree of relatedness between the meanings of the items in bold type.

Lord Swan was made a life **peer** in 1981.

He watched the customs official **peer** into the driver’s window.

...the Mediterranean **port** of Marseilles.

He asked for a glass of **port** after dinner.

The first pair of items are unrelated by etymology and my informants judged them to be distant in meaning. However, those who wrote something in the space provided for notes suggested that there is a semantic link. Their comments were as follows.

‘peerage- title implies status of looking from above on a structure of society i.e. at the tip of the organisation- vantage point= peer looking from a vantage point’

‘There is a very indirect link as a life peer is given a responsibility to look over society, and the second sentence is also linked with sight.’

‘In some ways they are both watching something.’

This seems to confirm Goatly’s suggestion that language users can construct folk etymologies creating metaphorical links between items which are historically distinct.

As noted above, the second pair of items, uses of **port**, are historically related. Some speakers showed that they were aware of this in the following comments.

‘port= Oporto= Portuguese port’

‘historical link, Portuguese.’

Nonetheless, these two speakers, in common with all but one of the 55 informants, chose (e) from the following scale to describe the semantic distance between the uses.

- a) identical meaning (any differences in interpretation are due to different contexts)
- b) the meanings are not completely identical, but are very closely related
- c) the meanings are different, but nevertheless there is a detectable relation of some kind
- d) there is not a clear relation between the meanings, but there seems to be some sort of link, of a very indirect kind
- e) there is no relation between the meanings

This strongly suggests that these language users do not consider etymology to be relevant to current meaning.

After judging and commenting on twelve pairs of lexical items, informants were asked the following question.

Do you think there can be any way of testing closeness of meaning independently of individual people's opinions? If so, what?

The following responses were given. (The majority of informants left the question blank.)

'No.'(three respondents)

'No, not really' (two respondents)

'I don't know'

‘This would be very difficult’

‘No, everyone’s opinion varies due to individual responses.’

‘No, not reliably as each person has own interpretations of meaning due to their own experiences.’

‘There can be no true way of testing meaning as a proportion of this can be attributed to upbringing and social background, i.e. regional varieties.’

‘Can only test closeness of meaning in the environment and situation of which a phrase is spoken or written’

‘No except in the sense of what you have done.’

‘Only in a survey like this’

The comments about **port** show that several informants were aware that a pair of lexical items may or may not be connected historically, and yet none suggested etymology as a means of judging relatedness of meaning.

In this section I have tried to show why etymology will not be used to decide whether pairs of items are semantically related or not. This decision means that in cases where a semantic relation can be postulated between a pair of items which have different historical roots, the pair will be treated as senses of a polysemous lexeme and potentially related through metaphor. Lexical items with identical form whose current meanings seem unrelated will be treated as homonyms regardless of any shared etymology.

3.4 THE PROBLEM OF MEANING DIVISION

3.4.1 A case study

A dilemma that arises on the initial examination of citations is how to deal with uses of a lexeme which seem to have different meanings in their contexts but which demonstrate some semantic relatedness. The problem is described by van der Eijk *et al.*

... intuitions are not clear as to whether a particular variation in meaning indicates ambiguity or lack of specification. (1995: 2).

Zgusta (1971) and Cruse (1982, 1986) discuss this issue, distinguishing between cases of ‘general meaning’, where a word has a wide range of application, and polysemy or ambiguity, where the word has a number of related but distinct senses. Some solutions are looked at in the following section.

The problem is exemplified using corpus citations of **heavy**. 1000 citations were randomly sampled and the most frequent uses were identified (Study 6. See Chapter Five for methodology). 14 citations have been selected from the larger sample in order to illustrate difficulties which arose. In the following sample the citations have been ordered alphabetically by the word appearing immediately to the right of **heavy**.

1. Mulcahy, a gunner who served in a heavy artillery regiment during
 2. moner Red-billed have bred without heavy bouts of fighting. Breedi
 3. aults of Glanville, Sims and a heavy but mobile front row. With
 4. and deny their forces suffered heavy casualties. In their
 5. within a week in patients taking heavy doses. The journal of the
 6. estate yesterday: `She suffered a heavy fall. She was airlifted to
 7. aze denim skirts with lace frills, heavy `fifties" lipstick in
 8. he sings one. <p> Rebuilding its heavy industry after the Japanese
 9. ankers. But that approach requires heavy investment in expertise.
 10. cking of many roads in Spain with heavy lorries: The associations,
 11. wrappers. <M02> Well there is one heavy object in there. <F01> Yeah
 12. not waterproof, this keeps off heavy rain and provides a degree
 13. now slick with sweat, aware of the heavy thumping of his heart. That
 14. Ratko Mladic's refusal to remove heavy weapons from Sarajevo and

The fourteen citations can be divided into four uses.

a. The definition in *Collins Cobuild English Dictionary* (second edition) of this use reads: ‘Something which is **heavy** weighs a lot’ (Sinclair *et al.* 1995: 783).

This is probably regarded as the primary or ‘core’ sense (McCarthy 1990: 50) of the lexeme by many speakers and is treated first in most dictionary entries¹.

3. aults of Glanville, Sims and a heavy but mobile front row. With
 10. cking of many roads in Spain with heavy lorries: The associations,
 13. wrappers. <M02> Well there is one heavy object in there. <F01> Yeah

b. **Heavy** is used to mean ‘in large quantity or amount’ in the following six citations (*Collins Cobuild English Dictionary*, second edition, Sinclair *et al.* 1995: 783).

2. moner Red-billed have bred without heavy bouts of fighting.
 4. and deny their forces suffered heavy casualties. In their
 5. within a week in patients taking heavy doses. The journal of the
 7. aze denim skirts with lace frills, heavy `fifties" lipstick in
 9. ankers. But that approach requires heavy investment in expertise. 12.
 not waterproof, this keeps off heavy rain and provides a degree

¹ . For example, *Collins Cobuild English Dictionary* (second edition, Sinclair *et al.* 1995), *Cambridge International English Dictionary* (Proctor *et al.* 1995), *Longman Dictionary Of Contemporary English* (third edition, Summers *et al.* 1995), *Oxford Advanced Learner's Dictionary* (fifth edition, Crowther *et al.* 1995), *Shorter Oxford English Dictionary* (Little *et al.*

c. **Heavy** is used to describe a movement or action that is performed with a lot of pressure (ibid.) in two citations.

6. estate yesterday: `She suffered a heavy fall. She was airlifted to
13.now slick with sweat, aware of the heavy thumping of his heart. That

d. **Heavy** is used to classify industry, machinery or weapons in three citations.

1. Mulcahy, a gunner who served in a heavy artillery regiment during
8. he sings one. <p> Rebuilding its heavy industry after the
14. Ratko Mladic's refusal to remove heavy weapons from Sarajevo and

The four uses would almost certainly be considered by most speakers as instances of the same word rather than homonyms. However it is difficult to decide whether each use represents a distinct sense; on the one hand it could be argued that they do because **heavy** is used to describe different types of objects or events in each group. On the other hand, there are arguments for considering all the above citations as contextually modulated uses (Cruse 1986) of one meaning, because it is not easy to demonstrate conclusively that the intrinsic meaning of **heavy** itself is different in each case. For example, the interpretation of **heavy** in (c) can be said to result purely from its collocation with a noun which refers to a movement or action. On the other hand, if distinct senses are to be recognised, the difficulty arises of limiting their number; it could be argued that there is apparently no limit on the number of 'senses' which can be distinguished. For example, use (b) could be split again for each different noun which it describes. If there were no way of limiting such a proliferation, the concept of 'sense' would cease to be useful.

Despite the above observations I shall argue that the division of the 14 sample citations of **heavy** into four senses is justified. In order to do this I shall look at further examples which are problematic for a range of reasons, attempting to distinguish cases of general meaning from cases in which a lexeme should be split into independent but related senses.

3.4.2 General meaning and related but distinct senses

In some cases it is not clear whether a lexical item has a general meaning that is interpreted more specifically in each context of use, or whether it has a series of closely related but independent senses with more specific meanings. An example of general meaning which can be compared with less straightforward cases is the sense of **good** meaning ‘of high quality’ (Zgusta 1971, Béjoint 1994). Zgusta argues that while the qualities which make a good fire are very different from those which make good food, a good book, or a good coat, the intrinsic meaning of **good** is the same in each case. I examined 200 naturally-occurring citations of this sense of **good** (Study 7), three of which are given here. (The collocational profile of **good** which emerged from this study is referred to later in this chapter.)

The Butlins and Warners holiday camps must have enjoyed a **good** summer due to the weather.

A remarkably **good** wine, crisp and fresh, with a real taste of ripe Chardonnay fruit with no oak undertones.

I enjoy reading, listening to romantic songs and watching **good** films.

It seems clear that the different understandings of the qualities of **good** in each citation are not due to the word having three different senses, applying to summers, wine and films respectively. Rather, knowledge of the usual properties

of each noun modified leads the reader to infer an appropriate interpretation from the general meaning of **good**.

Other lexemes are less straightforward however. For example, it is difficult to decide how the following two uses of **hunt** should be treated.

Police **are hunting** a man in a white dress shirt, seen in Blakelaw, Newcastle upon Tyne last Thursday night, when a girl of five was snatched and assaulted.

He often yearned for life in a country town again, to go out with a gun **hunting** rabbits or duck.

(These citations were considered in Study 8, an analysis of 200 citations of **hunt/hunts/ hunted** and **hunting**, which is discussed later in this chapter.)

Some of the difficulties encountered in classifying citations of **heavy** are due to the same problem. For example, the following two citations were grouped together as instances of the meaning ‘in large amount’ above.

4. and deny their forces suffered heavy casualties. In their
12. not waterproof, this keeps off heavy rain and provides a degree

However, it could be argued that these are not instances of a general meaning but of two distinct senses, for instance one applying to inanimate phenomena such as rain and one applying to human events.

3.4.3 General meaning and specialised meaning

A further difficulty in sense division arises where citations could be attributed to a

general meaning but seem to have another layer of more specific meaning. For example, in some citations **heavy** refers to a specific type of artillery, industry or weapon. This seems to be related to a general meaning, that of ‘having great weight’ but has developed a more specific interpretation in these contexts; heavy weapons are literally heavy, but, probably more importantly, powerful. The specialised use of **heavy** has a semi-technical meaning which is understood in relation to established norms within the fields of weaponry, industry or machinery. It is not uncommon for a word to have both a general and a specific use; Ullmann cites the case of **operation**, which, he claims, came to have a military use through repeated application of the general sense in a specific context (1957), and Cruse discusses the case of **dog** (type of animal) and the more specific use **dog** (male dog) (1982). In each case the problem lies in deciding whether the more specific use of the lexeme constitutes an independent sense or whether it should be regarded as a contextually modulated variant of the more general use.

3.4.4 Denotational meaning and evaluative meaning

A third type of problem is discussed by Ayto (1983), who uses the case of **Jew** to consider associational meaning. He claims that **Jew** has two uses, one to refer to people of the Jewish faith, a use which will be referred to here as a ‘denotational’ use, and an associational meaning of ‘usurious’, a use which will be referred to here as an ‘evaluative’ use. (These terms are intended to capture the primary orientation of each use and it is recognised that neither use is entirely denotational or evaluative.) The difficulty lies in deciding whether denotational and evaluative uses should be treated as independent senses.

This difficulty also arises in the analysis of **cowboy**. An analysis of 200 corpus examples (Study 9) shows that the lexeme has a denotational use specifying an occupation, and an evaluative use in which personal qualities are specified. The first and second of the following citations show the denotational use, while the third and fourth show the evaluative use.

He was a showman who thought nothing of dressing up as a **cowboy** to get his picture in the paper

Wyoming is **cowboy** country, where the new boots you buy will be leather with stacked heels and fancy stitching.

Chances are there won't be a plumber or an electrician available when you want one. If you do find someone, he may well turn out to be a **cowboy** - and he will certainly cost the earth.

The aim is to undercut **cowboy** cab drivers who rip off travellers.

It is not always easy to draw a clear line between denotational from evaluative use. In the following citations of **small town**, from a study of 200 citations (Study 10), a cline can be detected.

The thousands of items on her shopping list are brought in from all over the world in quantities that could feed a **small town**.

This is a **small town**, as I've told you. People gossip.

The market men said CBS News had an audience that was ageing, **small-town** and less educated than average.

Part of the reason why I moved away was the **small-town** mentality, all those narrow-minded people.

In the first citation, **small town** seems evaluatively neutral, while in the second citation there is some suggestion of a negatively evaluating meaning in addition to the denotation. In the third and fourth citations the evaluative meaning seems primary although it is possible that the denotational meaning is also intended. An

examination of the immediate right collocates of **small town** suggests that the evaluative use is not infrequent in British English (the section of the corpus used for this study). From the 20 most frequently occurring items in this position, the lexical words are as follows (numbers of citations of each in brackets).

America (52), life (25), girl (12), called (9), mentality (7).

An examination of citations of **small town life** shows that the negative connotation is generally exploited, as is the case for citations of **girl** and **mentality**, while the connotation is sometimes detectable in citations of **America**. This shows that the negative connotations are established in the language, but it does not in itself constitute a conclusive argument that the evaluative use should be treated as an independent sense.

3.5 INTUITIVE TESTS FOR MEANING DIVISION

These three types of semantic relation, between members of a related series of uses, between a general meaning and a specific use, and between denotational and evaluative uses of a lexeme all present problems for a model of sense division. Some tests for polysemy will now be discussed with reference to the examples cited above, in an attempt to find guidelines for sense division in these cases.

3.5.1 Truth conditions

A number of writers examine the truth conditions of disputed uses to decide whether they are separate senses. Norrick, for example, distinguishes **warm** (of

temperature) and **warm** (of clothing which can keep the wearer warm) by showing that an utterance such as ‘The jacket is warm’ can be true for one use and false for the other (1981). By this test, the two uses are separate senses. Attempts to separate non-distinct uses of general meanings using truth conditions produce nonsense or tautologies. For example, **grandmother** can be used of both paternal and maternal grandmothers in English (Eijk *et al.* 1995), but tests of truth conditions show that these are not independent senses. For instance, it is not possible for a speaker to say ‘This is a grandmother,’ and for the utterance to be true for one interpretation but false for the other.

Ayto uses this test to show that **Jew** is polysemous, having a sense of ‘grasping or usurious person’ which is independent of its denotational sense (1983: 96). This is because the set of truth conditions governing the denotational use includes the specification ‘of the Jewish faith’ while the set governing the evaluative use does not.

A test of truth conditions seems to separate the denotational and evaluative meanings of the corpus examples cited in the previous section. The truth conditions governing the denotational use of **cowboy** specify an occupation, described in *Collins Cobuild English Dictionary* (second edition) as ‘employed to look after cattle in the United States of America (Sinclair *et al.* 1995: 379). Corpus citations show that this specification is not an essential component of the evaluative use, as **cowboy** is used to describe people who have other occupations. Corpus evidence also shows that **small town** is used in utterances that do not

fulfill the truth conditions for its denotational use, which demonstrates that the evaluative use is an independent sense. Many citations of **small town** in fact suggest both interpretations, but this does not mean that they can never be used independently.

The capacity of this truth conditional test to separate genuinely distinct evaluative meaning from weaker connotational meaning is illustrated when the test is applied to the near synonyms **mansion** and **palace**. Both lexemes have a denotational use in which size and status of occupants are specified, and qualities such as luxury are often connoted. However, a corpus study (Study 11) shows that only **palace** is also used to refer to dwellings that do not have the features specified in its denotational meaning. For example, in the following citation, **palace** is used in its evaluative sense.

If you live on a large housing estate on the outskirts of town with predominantly modest properties, creating a **palace** in its midst will be self-defeating.

There is no evidence that **mansion** is used in the same way, and so by this test it has one sense (in this semantic area) while **palace** has two, a denotational meaning of ‘large house inhabited by certain people of high status’ and an evaluative sense of ‘building of relative splendour and luxury’.

Truth conditional tests also help in the analysis of lexemes which have a general meaning and a related specialised or more specific use. Cruse (1982, 1986) shows that **dog** (type of animal) and **dog** (male dog) have different truth conditions. For

example, ‘That’s a dog’ said of a bitch is true if **dog** is interpreted as ‘type of animal’, but false if it is interpreted as ‘male dog’. This test separates the specialised use of **heavy** (of machinery and weapons) from a general sense ‘having great weight’, as different truth conditions hold for each use. For example, a handgun could be described as ‘heavy’ in the general meaning of the lexeme because it weighs more than many other objects of a similar size. However a handgun is not a heavy weapon in the specialised sense of **heavy**.

3.5.2 Zeugma

Truth conditions can also be tested by devising situations in which both the disputed uses of a lexeme could occur, and constructing a sentence in which one use is deleted. Norrick summarises the principle as follows:

Since deletion generally requires non-distinctness of lexical items, deleting one item under phonological identity with another which differs in meaning will result in anomaly. The traditional term for the resultant sort of anomaly was ‘zeugma’. (1981: 114)

There are several ways of constructing such a test sentence, depending on the part of speech of the disputed lexeme. Norrick (1981) and Palmer (1976) show how tests for distinctness of meaning in adjectives can be devised using sentences containing a comparison. For instance, ‘John is as sad as the book he was reading’ is anomalous because a different sense of **sad** is used to describe a book from that used to describe a person (Palmer 1976: 67). Gibbs gives an example in which the disputed lexeme is a verb. ‘Tom ran the race’ and ‘Bill ran the race’ can be

reduced to ‘Tom ran the race and Bill did too’ if **ran** is understood as ‘competed in’ in both sentences. However, if Tom organised the race while Bill was a participant, the reduction would not be acceptable, unless as a pun (1994: 41). For nouns, test sentences take the form of substituting the second occurrence of the lexeme with a pronoun. Cruse shows that various pairs of uses of **mouth** cannot be co-referred without zeugma. For example:

The poisoned chocolate entered the Contessa’s mouth at the same instant that the yacht entered that of the river. (1986: 72)

is zeugmatic.

Zeugma is judged by the researcher’s intuition, and a central problem with examples such as Cruse’s is that they are so contrived. In his example it is difficult to decide whether the deletion of the second **mouth** is strange in a different way from the rest of the sentence because the co-ordination of the two clauses would sound odd even if **that** had not been substituted for **mouth**. One way of supplementing intuitive judgements of zeugma might be to consult naturally-occurring data in order to establish whether it ever occurs in non-invented utterances. If it does not, intuitive judgements about any potentially zeugmatic sentence could be checked by searching a large corpus for similar cases. In Study 12, 200 corpus citations of **hotter** were examined. It was found that **hotter** is sometimes used to refer to two independent senses of **hot**, apparently as a humorous device. In the first of the following citations the two senses of **hot** referred to are ‘having a high temperature’ and ‘spicy’, and in the

second ‘good, fashionable’, and ‘having a high temperature’:

If we are really set for summers **hotter** than a vindaloo then maybe we shall all be fishing for cichlids and characins rather than tench and trout.

It has the most infectious itchin' guitar lick and it's **hotter** than David Koresh's current destination down under.

If, as this suggests, zeugma is slightly marked but not highly unusual in naturally-occurring texts, empirical linguistic data cannot be used to establish its presence or absence and the researcher needs to resort to intuition to identify it. As already noted, this is unlikely to be completely reliable.

3.5.3 Paradigmatically-related forms: derived forms

Other tests look at paradigmatic relationships between disputed uses and other word forms on the principle that where pairs of uses do not have a consistent relationship with another word form, they should be regarded as different senses. One of these tests examines derived forms and specifies that if there is a form which is related by word derivational principles to one use of a lexeme but not to another, the two uses are distinct senses. In this way **act** (in the theatre) can be distinguished from **act** (do, perform an action) by the fact that **actress** is derived from the former sense and **action** from the latter, and neither of these derived forms can be used in relation to the other sense (Robins 1987). The test is of limited use in that it can only be applied to words which have derived forms. A further problem is that while the test may separate uses which have different derived forms, no conclusions can be drawn about uses which have the same derived forms. It is easy to find cases where different uses of a lexeme have

identical derived forms and yet would be judged independent senses by other tests and by intuition. For example, the uses ‘comfortably high temperature’ and ‘friendly’ of **warm** both take the nominal derived form **warmth**.

3.5.4 Paradigmatically-related forms: sense relations

Another test of paradigmatic relations involves examining the sense relations which each of the disputed uses contracts with other uses or words. By this test, **good** (of summers) and **good** (of wine) are not distinct as both have relations of antonymy with **bad** and of graded synonymy with words such as **excellent**. **Light** (of weight) and **light** (of colour) are different senses because their antonyms, **heavy** and **dark** respectively, are different. However this test throws up many results which seem inconsistent with intuition and with other tests. For example, by this test the uses **deep** (of character) and **deep** (of water) are a single sense on the grounds that the antonym of the two uses is the same, **shallow**. Such inconsistencies arise from the tendency for more than one member of a lexical set to be used metaphorically. When several members of a source domain are used in a target domain, relations such as antonymy between them may be maintained, with the result that two apparently independent senses may have the same antonym. (This possibility is investigated in more detail in Chapter Six.) The existence of such inconsistencies means that this test is not helpful in deciding difficult cases and will not be used here.

3.5.5 Translation equivalents

A related test involves looking at translation equivalents of the disputed uses in

other languages, following the principle that where another language translates each use with a different word, the two uses should be regarded as distinct senses. Lehrer points out that splitting meaning wherever another language does would lead to splitting English **leg** into ‘animal’s leg’ and ‘human leg’, following the Spanish (1974). She feels that this division has no psychological reality for speakers of English and so cannot be justified. Making the same point, Norrick points out that German distinguishes between **Wand** and **Mauer**, which are both translated by the English **wall** (1981: 111- 112). Lehrer argues that dividing a word’s meaning wherever any other language does could lead to a very large number of irrelevant sense divisions (1974). A further reason for rejecting this test is that meaning divisions such as the above are not supported by other tests.

3.6 TESTS FOR DISTINCTIVENESS OF MEANING BASED ON NATURALLY-OCCURRING TEXTS

3.6.1 Syntax

The tests discussed above are largely based on intuitive judgements about the meanings and behaviour of lexical items in invented sentences or in the abstract.

Three further tests involve an examination of occurrences of a lexeme in naturally-occurring texts. The first of these concerns the syntactical behaviour of the disputed uses. Moon (1987b) and Sinclair (1991) show that differences in syntax, such as between count and uncount noun uses and transitive and intransitive verb uses, often accompany discernible differences in meaning. In the case of **quality**, the uncount use has a meaning of ‘standard’ and the count use has a meaning of ‘attribute’, as the following examples illustrate:

We are not able to comment on the **quality** and effectiveness of courses.

...his admiration for her mental and spiritual **qualities**.
(corpus citations quoted in Moon 1987a: 90)

Sinclair uses a detailed analysis of citations of the lemmas **decline** and **yield** to show that distinct verb patterns tend to accompany shifts in meaning: that

grammatical and lexical distinctions may be closer together than is normally allowed. (1991: 51)

An examination of syntax can separate some of the concordance examples discussed earlier. For instance, the use of **heavy** to describe specific types of

machinery or weapons varies slightly in syntactic behaviour from other uses of **heavy** in that it is ungraded (as is usual for classificatory as opposed to descriptive adjectives). Similarly, **small town** tends to be used as a noun modifier or predicative adjective in its evaluative use whereas it is generally used as a nominal group with **town** as head in its denotational use.

However, there are many cases in which seemingly different senses of lexemes appear in the same syntactic patterns. For example, discernibly different senses of many adjectives appear to have identical syntactical behaviour. It seems that where no syntactical differences between two uses can be detected, no conclusions about independence of meaning can be drawn.

3.6.2 Collocational clusters

The collocational profile of a lexeme can provide another way of making decisions about making sense divisions. Different senses of a lexeme are frequently observed to have different groups of collocates (Moon 1987a, Sinclair 1991, Barnbrook 1996). For example, where **cowboy** has a denotational meaning, typical collocates are **boots** and **films**, whereas when it is used evaluatively to talk about an unreliable workman, typical collocates include words such as **company** and **firm** and words for occupations such as **plumber** and **electrician**. This would suggest that where the collocates of disputed uses fall into distinct semantic groups, the uses can be regarded as separate senses.

Corpus citations of the ‘of high standard’ sense of **good** were examined (Study 7,

referred to earlier). As this sense is generally agreed to be one general meaning, it should not be possible to split collocates into distinct semantic clusters. This turns out to be the case; this sense of **good** is used to modify a wide range of nouns, including the following:

album, amateur botanist, book, bread, drawing, film, fingernails, footballer, health food, rabbit (as a food), store, office chair, painkiller, paste, school, show, summer, thump.

A few lexical sets can be identified within this list, such as words for types of food, and words associated with books, films and the theatre. However, there do not seem to be perceptible gaps between these and other meanings, and the range of nouns modified by **good** seems to be extensive and unbroken.

This test was also used to investigate the uses of **hunt** discussed above (Study 8). 200 citations in total were studied. It was found that many of their collocates tend to cluster into separable groups. Corpus citations of the verbal uses of **hunt**, **hunts**, **hunting** and **hunted** were examined in more detail and the results are summarised in the following table

Table 3.1 Senses and collocational patterns of HUNT

form/ use	freq- uency	<u>Typical collocates</u> Examples
Proper names and other nominal uses	106	
hunt: people or animals of animals	52	<u>Words for animals</u> Blue whales were hunted so much that their numbers have continued to decline. He thinks fish eagles may have difficulty hunting because rivers are so full of soil.
hunt: police of criminals	14	<u>Detectives, police, criminal, prisoner, killer, names</u> Detectives hunting the killer of 'gentle giant' Robert Higgins will make a desperate last plea for help tonight.
hunt down: people of people	4	<u>Down; names, various words for people</u> ... Salman Rushdie , being hunted down by a group of Muslim assassins.
hunt down: of animals	2	<u>Down; words for animals</u> <They> will pay \$15,000 to hunt down a polar bear .
hunt down: other	3	(in this sample) <u>derivative, aircraft, Scud missiles</u>
noun-hunt: people of things to buy	10	<u>Bargain, gift, house</u> 'We had been house-hunting for ages,' Wendy explains.
hunt for or noun-hunt: other	6	<u>For; various</u> One of the doctors would be hunting for a vein. Publicity-hunting bimbos were photographed getting their tits out, week after week.
hunt out: of people	1	<u>Out; names, words for people</u> The Democratic Union, it was explained, disapproved of hunting out former communists.

hunt up: of people	1	<u>Up</u> ; names, words for people I hunted up Wang Yisheng.
head hunt	1	<u>Head</u> ... a fear that these scientists might be ` head-hunted ' by would-be nuclear Third World states.
Total verbal uses	94	

It was questioned above whether the ‘police’ and the ‘animal’ use of **hunt** should be treated as separate senses. This examination of the collocational profiles of a small sample of citations suggests that they should, because the disputed uses fall clearly into two groups with a perceptible gap between them. In this concordance extract, non-phrasal **hunt** is only used to talk about either police pursuing criminals or about either people or animals pursuing animals. Where a speaker uses people other than the police as the subject, a phrasal verb, one of **hunt down**, **hunt out** or **hunt up**, is used. Where a speaker talks about people searching for a non-animate object, **hunt for** is normally used. This means that there is not a general use of non-phrasal **hunt** which extends over the ‘police’ and ‘animal’ uses and the semantic areas in between; there is a discernible semantic gap (Cruse 1986) between the two uses.

Where an examination of collocates shows a semantic gap between uses they will be considered as different senses. However, there are some pairs of uses which might be considered to be distinct senses using intuition and other tests, but which do not have distinct sets of collocates. This is because there is a cline between the two meanings rather than a gulf. This is the case for metonymically-related pairs,

where, as was shown in the previous chapter, a literal sense shades into a figurative sense. This may also be the case for some denotative and evaluative pairs of senses, as these shade into one another in some citations. An examination of collocational profiles is unlikely to resolve the question of sense division in these cases.

For the purposes of research into metaphorical meaning, the examination of collocational profiles is an obviously appropriate test of polysemy. This is because metaphor involves the transference of meaning to a new domain. If it is assumed that different domains are largely (although not entirely) lexicalised with words from different semantic areas, then an examination of the lexical surroundings of use should separate senses in a way that will facilitate the identification of metaphors.

3.6.3 Semantic prosody

Collocational profiles can also highlight a type of evaluative slant known as *semantic prosody* (Louw 1993). An example of this is found in the citations of the second use of **heavy** discussed above, to talk about things which are ‘in large quantity or amount’ (Little *et al.* 1971: 943).

2. moner Red-billed have bred without heavy bouts of fighting.
 4. and deny their forces suffered heavy casualties. In their
 5. within a week in patients taking heavy doses. The journal of the
 7. aze denim skirts with lace frills, heavy "fifties" lipstick in
 9. ankers. But that approach requires heavy investment in expertise. 13.
- not waterproof, this keeps off heavy rain and provides a degree

In each of these citations the noun modified by **heavy** is one which suggests an

undesirable entity. (Citation 9 appears at first to be an exception, but a more detailed investigation of contexts in which **heavy investment** is used suggests that **heavy** is used to talk about an investment which the speaker or writer disapproves of or is reluctant to make.) To investigate the semantic prosody of this use in more detail, the immediate right collocates of 1000 citations of **heavy** were examined (Study 6). Of the 20 most frequent items in this position, six were regularly associated with the ‘in large amount’ use and almost all of these seemed to refer to undesirable entities. These were as follows, with numbers of occurrences given in brackets.

rain (33); fighting (25); losses (12); pressure (8); casualties (8); drinking (7).

Instances of the ‘primary’ use, ‘having great weight’, do not have regularly negative collocates. The difference in semantic prosody between the uses ‘in large quantity or amount’ and ‘having great weight’ is a further argument for considering them to be separate senses.

3.7 SUMMARY

Cowie argues that no single test can be used as a reliable identifier of polysemy or general meaning (1982) and a combination of some of the tests discussed will be used to determine distinctiveness of meaning here. In later chapters of this thesis, I examine paradigmatic relations, collocation, syntax and aspects of semantic prosody with relation to metaphor. The patterns which emerge prove too complex

for any one of these features to be used as an independent, definitive criterion for meaning division.

Collocational and syntactic tests, which can be implemented using naturally-occurring citations, will be used as main tests here, while the examination of truth conditions will be used as a supporting test. This will be used to confirm decisions reached using collocational and syntactic patterns, or to assist where these tests do not give a clear result. It is inevitable however that ambiguous cases will still arise.

The tests discussed above, and the types of semantic relation which they help to distinguish, are given in the following table.

Table 3.2 Tests to be used to determine distinctness of meaning

Test	Types of semantic relation distinguished; examples
Main tests	
Collocational profiles: identifies presence or absence of gaps in meaning spectrum	<ul style="list-style-type: none"> • separates lexemes having general meaning from lexemes having a series of related specific meanings; shows good meaning ‘of a high standard’ to have one sense, but heavy to have several senses, and hunt to have separable ‘police’ and ‘animal’ senses. • separates lexemes having a general meaning from lexemes having both a general meaning and a specific meaning; shows heavy to have separable ‘having great weight’ and ‘machinery and industry’ senses. • can often separate lexemes having a distinct denotational and evaluative meaning; shows cowboy to have two senses. • does not separate metaphorical metonyms
Collocational profiles: presence or absence of differences in semantic prosodies	can separate all the above cases where different prosodies are found, but where they are absent, no conclusions can be drawn; shows the uses of heavy meaning ‘having great weight’ and ‘in large amounts’ to be separate senses.
Syntax: evidence of different syntactic behaviour	can separate all the above cases where different syntactic patterns are found, but where they are absent, no conclusions can be drawn; separates quality into two senses and shows small town to have distinct denotational and evaluative senses.

continued overleaf

Supporting test	
Truth conditions: use of invented sentences to test whether the same truth conditions hold for each use	<ul style="list-style-type: none"> • separates lexemes having a general meaning only from lexemes having both a general meaning and a specific meaning; shows that grandmother has one general meaning while dog has a general meaning and a more specific one, of 'male dog'. • separates lexemes having a general meaning from lexemes having distinct denotational and evaluative senses; shows that Jew has separable denotational and evaluative senses.

In this chapter I have discussed the difficulties of deciding which uses of a lexeme should be regarded as independent senses. I have reviewed a number of tests for independence of meaning and given reasons for choosing some as main and supporting tests. This is a first step to identifying linguistic metaphors. In the next chapter I develop the second half of this model, criteria for establishing metaphoricity and a classification system for different types of linguistic metaphors.

4. METAPHORICAL MEANING

4.1 INTRODUCTION

In the previous chapter I evaluated and selected main and supporting tests for determining distinctness of meaning. It is now necessary to specify conditions for describing some senses of lexemes as metaphorical and others as not. This is not straightforward. Broad definitions of metaphor such as Low's 'Treating X as if it were, in some ways, Y' (1988: 126) lack the specificity necessary to handle the range of linguistic expressions which have some claim to metaphoricity. A further difficulty is that the term 'metaphor' is used by different writers to cover several different groups of linguistic expressions. At one extreme, writers such as Brooke-Rose reserve the term for literary metaphor (1958), while at the other, many writers within the contemporary theory seem to use it to refer to any lexical use which has evolved through a process of metaphorical transfer at some point in history.

Neither Brooke-Rose's nor the contemporary position is helpful here. In this synchronic study of non-innovative metaphorical use it is necessary to isolate conventional metaphors from both innovative and historical metaphor.

In the next section I argue that it is necessary to recognise different levels of metaphoricity, including subdivisions within the broad group of items often referred to as 'conventional' or 'dead' metaphors. Two writers who have tackled

some of these problems by developing classifications of linguistic metaphor are Lakoff (1987b) and Goatly (1997). I discuss their categorisations and go on to develop my own model, which uses some of their criteria. These are supplemented by other conditions that can be tested using a combination of linguistic analysis and a consideration of semantic features.

4.2 ISOLATING AND DISCUSSING CONVENTIONAL METAPHOR: THE PROBLEM

In Chapter One, following the contemporary theorists, ‘linguistic metaphor’ was taken to refer to the lexical realisation of a cross-domain conceptual mapping.

This understanding can cover a wide range of linguistic expressions, including the following.

LINGUISTIC METAPHOR	SOURCE
1. She must espouse the everlasting sea.	from Wordsworth ‘The extinction of the Venetian Republic’, cited in Kittay 1987: 259
2. He attacked every weak point in my argument.	Lakoff and Johnson 1980: 4
3. Their campaign seemed to be bearing fruit .	Bank of English corpus
4. ... an ardent lover.	Bank of English corpus

Each of these four expressions can be interpreted as a lexical realisation of a conceptual metaphor. The first realises A CITY IS A WOMAN, the second, A BUSINESS IS A PLANT, the third ARGUMENT IS WAR, and the fourth EMOTIONS ARE TEMPERATURES. Despite this similarity, the expressions

differ in important ways.

The first is an example of innovative linguistic metaphor, in that the lexical item **espoused** is used unconventionally. The verb is not regularly mapped onto the target domain of cities and its subject is generally human in the source domain. The effect is probably marked for most readers. The second and third expressions are probably unmarked for most language users, because they are regularly used with the meanings they have here. In both cases, corpus evidence shows that the metaphorical sense is at least as frequent as the non-metaphorical sense. The fourth item, **ardent**, is only used in the sense it has here; it has no literal counterpart in current English.

The range of different types of linguistic metaphors realised by conceptual metaphors is not a problem for contemporary theorists of metaphor. On the contrary, it is taken as further proof of the strength of their claims. The existence of historical metaphors such as **ardent** is proof that metaphor has shaped the lexicon over centuries, while the exploitation of conceptual metaphors to generate innovative metaphors demonstrates their importance to creative thinking (Lakoff and Turner 1989). However, as the aim of the studies described in this thesis is to describe metaphors which are used conventionally in English, it is necessary to develop a categorisation which enables me to exclude innovative metaphors and historical metaphors with consistency.

Lakoff has recognised the need for a classification of non-innovative metaphors,

partly in order to argue against what he sees as the overuse of the term ‘dead’ metaphor to cover a number of dissimilar cases. His categorisation is now described and criticised.

4.3. LAKOFF’S CATEGORISATION OF DEAD METAPHOR

4.3.1 The categories

Lakoff is one of the few researchers to define different types of non-literary metaphors (1987b) and his discussion provides some useful distinctions for the model of metaphor and metaphor-based polysemy being developed here. He distinguishes four types of lexical item which are often covered by the term ‘dead metaphor’ and argues that it is unhelpful to treat these together, as they are essentially different phenomena.

In the first of Lakoff’s categories are items such as **pedigree**, originally a metaphorical extension of the French term for a crane’s foot (the basis for the transfer is the similarity in shape between a crane’s foot and a diagram of a family tree). This metaphor can be described as linguistically dead because the original non-metaphorical sense of the word is not in current use, and conceptually dead because the mental mapping which relates the foot of a bird to a family tree has disappeared. It is also dead in Lakoff and Johnson’s special use of the term (1980), in that it is not part of a metaphorical system creating regular transfers from the field of birds to the field of genealogy.

Comprehend falls into the second of Lakoff's types of conventionalised metaphor; like **pedigree**, the former linguistic use (literally 'take hold') has disappeared, and with it the mapping from this sense to the present use. Unlike **pedigree**, however, the metaphorical system which maps the physical act of taking hold onto the mental act of comprehension is still in place in our conceptual systems.

Lakoff exemplifies his third type of conventionalised metaphor using the (American English) sense of **dunk**, used to talk about a basketball move. (This is an extension of the sense of **dunk** referring to the action of dipping a biscuit into a hot drink; in a similar action a ball is dipped into a basketball net.) Here both senses of the word are in use, and the metaphorical connection is clear to users of the term. This metaphor is dead for Lakoff because, like **pedigree**, it is a one-shot metaphor; the domain of food and drink is not mapped onto the domain of basketball at other points.

In his fourth category, **grasp** is a conventionalised metaphor which is 'live' in all possible senses; both metaphorical and non-metaphorical senses of the word are in current use, the connection is evident to contemporary speakers, and the mapping of this item is part of a wider mapping of one field onto another.

The following table, based on Lakoff (1987b: 146), summarises the criteria used to separate these four types of lexical item.

Table 4.1 Lakoff's categorisation of dead metaphor

type	example	characteristics
1	pedigree	original image (of crane's foot) is absent conceptual mapping is absent original literal use has disappeared linguistic mapping is absent
2	comprehend	original image (of taking hold) is present conceptual mapping is present original literal use has disappeared linguistic mapping is absent
3	dunk	original image (of dipping biscuit into liquid) is present conceptual mapping is present original literal use has not disappeared linguistic mapping is present but not systematic
4.	grasp	original image is present conceptual mapping is present original literal use has not disappeared linguistic mapping is present and systematic

4.3.2 Shortcomings of Lakoff's classification as a model for linguistic analysis

Lakoff's research is primarily concerned with the exploration of conceptual systems, and only tangentially with the analysis of language, and so parts of his model are not directly relevant here.

Lakoff's first two criteria do not seem to be relevant to a study of language in use and are also difficult to establish empirically. It would be very difficult to determine whether the first criterion, the survival of the original source domain image, has any influence on linguistic metaphor. Further, it is not clear how this criterion is implemented in cases which are not intuitively clear. The difficulty is not tackled by Lakoff, who uses uncontroversial examples. **Pedigree** is a clear-cut case of a source domain image which has disappeared, because, although we can still visualise a crane's foot, it seems highly unlikely that current speakers ever connect this image with family trees unless the connection is suggested to them. His other examples, **comprehend**, **dunk** and **grasp**, are also straightforward, the source domain images being linked with the meanings of their current referents. Less easy to classify are the borderline cases which arise where the source image still exists, but may or may not have a connection with the metaphorical use for current speakers, or where it may survive for some speakers but not for others.

To investigate the extent of the variation between different speakers' perceptions of source domain images, and other aspects of metaphoricity, I conducted a second informant study (Informant Study 2). This attempted to find out the kind of links that untrained language users perceive between linguistic metaphors and

their literal counterparts. I asked twelve informants to read corpus citations of 30 pairs of metaphorical and non-metaphorical senses. The informants commented on semantic connections and judged the distance of meaning between the senses using a scale of 1 to 5. The results showed a wide variation in perceptions of meaning differences, and a variation in verbalising source domain images. This is exemplified in informants' responses to the two following citations:

He wiped his **brow** with the back of his hand.

He was on the look-out just below the **brow** of the hill.

If Lakoff's criterion of source domain image mapping is to be used in classifying the second use of **brow**, it is important to know whether users still connect the source domain image of the brow of a human face with the brow of a hill. (The items are etymologically related (Little *et al.* 1973).) Comments made by three informants suggested that they did:

'Forehead, top of face; top of hill. Both curved and at tops of things.'

'Physical similarities- i.e. brow is at top of head and hill.'

'Probable link- top or near top of hill and head.'

However, the other informants did not comment on this item, despite responding fully to some other items, which suggested that they might not see an obvious connection. Judgements about the semantic distance between the two senses of **brow** differed widely. Scorings were as follows:

Table 4.2 Results of Informant Study 2 for ‘brow’

score	Description	Number of informants
1	identical meaning (any differences in interpretation are due to different contexts)	1
2	the meanings are not completely identical, but are very closely related	3
3	the meanings are different, but nevertheless there is a detectable relation of some kind	2
4	there is not a clear relation between the meanings, but there seems to be some sort of link, of a very indirect kind	4
5	there is no relation between the meanings	2

These variations suggest that no single speaker’s intuitions can be treated as reliable evidence of source domain images or semantic distance, at least in borderline cases.

There is a further difficulty in establishing the presence of the source domain image in the minds of language users. It is not possible to know whether the source image was already present for the three informants who described it, or whether they made the link on completing the test, an effect documented by Lehrer (1974). She tested informants’ perceptions of semantic relatedness using a similar scale to mine, and retested the same informants on the same items six weeks after the original test. She found that scores on the second test were lower overall; informants perceived more closeness of meaning than when originally tested. She concluded that our perceptions of meaning are dynamic, not static.

Results for other items on my test suggested that informants' perceptions of semantic relatedness are more consistent for well-known cases such as orientation and temperature metaphors. However they are generally inconclusive for borderline cases, which suggests that individual language users have different understandings of semantic relatedness. This implies that it is not safe for the researcher to generalise from his or her unsupported intuition.

Lakoff's second criterion is the existence or otherwise of conceptual mapping. From a linguistic perspective, this criterion does not operate independently but is duplicated by another criterion in his model. According to the contemporary theory, conceptual mappings are realised by linguistic expressions, the existence of which constitutes the central evidence for them. This means that any conceptual mappings which are not realised by linguistic mappings are of dubious status. Looking for evidence of conceptual mapping is therefore identical with establishing the presence of linguistic mapping, which is the fourth criterion in the model.

I have argued that some of Lakoff's criteria are difficult to implement in a classification of linguistic expressions. This seems to result partly from the type of linguistic evidence used by writers working in the contemporary theory. Lakoff claims to take his linguistic evidence from everyday language in use (1993) but is rarely explicit about the nature of his corpus. It seems that he occasionally uses naturally-occurring examples from texts, but that many of his examples are elicited from his students (Kövecses, personal communication). It is possible that

borderline cases are less intuitively salient and so do not emerge from such elicitation. Further, contemporary theorists gather their linguistic evidence in order to demonstrate conceptual mappings, and are not concerned with classifying linguistic expressions rigorously and developing tests for dealing with borderline cases. These two factors mean that contemporary theorists of metaphor do not generally encounter the difficulties which face a lexicographer or corpus linguist, who has to give as complete an account as possible of naturally-occurring concordance citations.

4.3.3 Adaptations of Lakoff's model

The above criticisms do not constitute a rejection of Lakoff's model. His third and fourth criteria provide distinctions which are of use here. The third criterion is the existence or otherwise of the original literal sense of an item. This point separates historically figurative expressions from dead metaphors. It is assumed here that a linguistic metaphor only exists in relation to a current non-metaphorical sense of the lexeme. This means that where a formerly non-metaphorical sense has disappeared, its formerly metaphorical counterpart is regarded as non-metaphorical in synchronic terms. This leads to the exclusion from analysis of words such as **ardent** and **comprehend**.

In implementing the above criterion, the interpretation of 'lexeme' is broad, and can extend across different parts of speech. This is because corpus studies, detailed in Chapter Eight, indicate that it is not uncommon for metaphorical mapping to cross part of speech boundaries. For instance, **squirrel** is rarely or

never used metaphorically as a noun, but is well-established as a verbal metaphor. The semantic connection between the literal noun and the metaphorical verb seems unarguable. To classify verbal **squirrel**, in the following citation, as non-metaphorical on the grounds that it has no literal verbal counterpart would be counter-intuitive.

... as consumers **squirrel away** huge sums for the downpayment on a home.

Lakoff's fourth criterion is the existence or otherwise of systematic linguistic mapping of one domain onto another. This criterion does not separate metaphor from non-metaphor, but does highlight a distinction which is regarded as very important by many writers. For cognitive linguists such as Lakoff and Johnson (1980) and Gibbs (1994), systematic metaphors are of central importance. On the other hand, one-shot metaphors, linguistic expressions which take on a non-literal meaning in isolation and are not part of a wider mapping, are of little interest as they are unlikely to play a role in conceptual organisation.

Lakoff's categorisation of 'dead' metaphor is significant in its recognition of different types of dead and conventional metaphors. However it is not sufficiently developed to handle naturally-occurring linguistic data. The model discussed in the following section was designed explicitly for the classification of linguistic metaphors.

4.4 GOATLY'S CATEGORISATION

Goatly's analysis of metaphor is based on naturally-occurring texts, some of which are taken from the Bank of English, the corpus used for the studies described later in this thesis, and some from other sources including newspapers and literature. He does not confine his discussion, as I do, to conventional metaphor but he nonetheless recognises a continuum from innovative through to dead metaphors.

4.4.1 The categories

Goatly's model contains five categories or 'degrees of conventionality': Active, Tired, Sleeping, Buried and Dead metaphors (1997: 32). Tired and Sleeping metaphors are subsets of a group termed Inactive metaphors. The five categories are exemplified and described in the following table.

Table 4.3 Goatly's categorisation of metaphor types

Label	Example	Description
Dead	germ : a seed germ : a microbe pupil : a young student pupil : circular opening in the iris	Either the former non-metaphorical sense is rarely used, or the connection between the two senses has become so distant with time that it is no longer recognised by most speakers. Homonyms.
Buried	clew : a ball of thread clue : a piece of evidence	As above. The two senses have become formally different.
Sleeping	vice : a gripping tool vice : depravity crane : species of marsh bird crane : machine for moving heavy weights	The metaphorical meaning is conventional. The literal meaning is still in use and may be evoked by the metaphorical sense on occasion. The two senses are regarded as polysemes.
Tired	cut : an incision cut : budget reduction fox : dog-like mammal fox : cunning person	As above. However the metaphorical sense is more likely to evoke the literal sense here than in the previous category. The two senses are regarded as polysemes.
Active	icicles : rod-like ice formations icicles : fingers ('He held five icicles in each hand' Larkin)	The metaphorical sense is evoked entirely through the literal sense. There is no established lexical relationship between the two senses.

Adapted from Goatly (1997: 32- 34)

4.4.2 Criticisms and adaptations of Goatly's model

In its focus on linguistic realisations rather than conceptual processes, Goatly's model is apparently more suitable as a framework for corpus analysis than Lakoff's model. However, it seems to be less thoroughly explored than the latter. In particular, Goatly does not appear to use comparable criteria across different parts of the model. For instance, the status of etymology in his discussion is uncertain. He includes pairs such as **pupil** (young student) and **pupil** (of the eye)

in his category of dead metaphors on the grounds of shared etymology despite their current semantic distance. On other occasions he disregards etymology, for example describing the historically unrelated **vice** (depravity) and **vice** (gripping tool) as Sleeping metaphors.

One of the most important criteria for distinguishing different levels of conventionality in Goatly's model is the way in which speakers process metaphorical senses and whether the literal sense is evoked in order to do so. This is the only way he suggests of separating Sleeping from Tired metaphors, a distinction which is particularly important because it marks the division between expressions which most speakers consider metaphors and those which merely have metaphorical origins. Unfortunately Goatly does not say how this criterion can be implemented for any particular metaphor, and in the examples he gives it seems to have been done intuitively. I have already shown why the intuitions of individual language users seem to be unreliable evidence for making decisions about metaphoricity, and so I consider that other types of evidence are necessary to allocate linguistic expressions to these categories.

Nonetheless, the categories which Goatly outlines are useful ones and correspond closely to the model which I develop in the next section. I do not include his Buried category as formally unrelated pairs are not an issue here. I consider expressions which Goatly describes as Dead as homonyms or historical metaphors. His Active metaphors are labelled innovative in my model. His Sleeping and Tired groups correspond loosely to the groups which I describe as

dead and conventional.

4.5 A CATEGORISATION OF LINGUISTIC METAPHORS

In this section I develop more fully my own categorisation of linguistic metaphors. This makes up the second half of the model of metaphorical meaning which was developed in the previous chapter.

4.5.1 The categories

The following table gives an overview of categories of metaphorically-motivated linguistic expressions. In the last section of this chapter there is a more detailed version of this table which includes a summary of categorisation procedures.

Table 4.4 A categorisation of metaphorically-motivated linguistic expressions

Types of metaphorically-motivated linguistic expression	Example
Living metaphors	
1. Innovative metaphors	... the lollipop trees (Cameron in press) He held five icicles in each hand. (Larkin, cited in Goatly 1997: 34) (icicles = fingers)
2a. Conventional metaphors: one-shot	The wind was whispering through the trees. (Allbritton 1995: 35)
2b. Conventional metaphors: systematic	grasp (Lakoff 1987b) (spending) cut (Goatly 1997) There is no barrier to our understanding. (Halliday 1994)
Dead metaphors and non-metaphors	
3. Dead metaphors	deep (of colour) crane (machine for moving heavy objects) (Goatly 1997)
4. Historical metaphors	comprehend , pedigree (Lakoff 1987b) ardent

As argued in the previous chapter, homonyms are not considered as candidates for metaphoricity, regardless of their etymology, and so are not included in this model.

4.5.2 Systematic and one-shot metaphors

Following Lakoff's fourth criterion (1987b), the category of conventional metaphors has been divided into category 2a, one-shot metaphors and category 2b, systematic metaphors. A corpus-based study of collocates of the metaphorical and non-metaphorical senses of a lexeme can distinguish the two groups as follows:

- where one or more collocates from the source domain is also used in the target domain, then the metaphor is assumed to be part of a systematic transfer and to belong to category 2b;
- where there is no evidence that collocates from the source domain are transferred into the target domain, the metaphor is assumed to be a one-shot metaphor and a member of category 2a.

It would be possible to split categories one and three into (a) and (b) in the way that category two is split, according to whether a metaphor is one-shot or part of a system. This has not been done here because only category two is studied in detail in this thesis.

4.5.3 The identification of innovative and historical metaphor

In order to separate conventional metaphors from other kinds of linguistic expressions, boundaries have to be drawn between these and the other classes of linguistic expression. In the case of innovative and historical metaphor this is relatively straightforward.

Innovative linguistic metaphors, by definition, lie outside conventional language and exist in contrast to it. The boundary between the two groups is likely to be fuzzy rather than clearly defined, for two reasons. It is a boundary which many individual linguistic expressions cross over time, since it seems that all conventional linguistic metaphors must have been innovative at some point in history. Further, individual speakers are likely to disagree about the newness of

particular linguistic expressions. It is not possible therefore to draw a hard and fast line separating the innovative from the conventional, but consistency of treatment seems a reasonable goal.

In the analysis of concordance citations, the difficulty of deciding on cases of innovative metaphor arises rarely because individual innovative metaphors are infrequent. Where the difficulty does arise, corpus frequencies can be used as a measure of conventionality. In the studies described in this thesis, any sense of a lexeme which accounts for less than one in every thousand citations is considered insignificant and thus ignored simply on the grounds of infrequency. This is likely to exclude most or all cases of innovative metaphor. However, a few non-conventional uses may appear frequently enough to be considered. This occurs where one language user favours an idiosyncratic use. If my corpus contains a lengthy section of that user's output, such as a complete book, and if the lexeme is otherwise infrequent, the idiosyncratic use may represent more than one per thousand corpus citations. Such uses are rare and can generally be identified intuitively. They can then be excluded if an examination of corpus sources shows that all the citations of this use are from the same source.

Historical metaphors are senses originally formed by metaphorical extension from a literal sense which has since dropped out of use. These items can be identified using corpus data. If citations of the lexeme in question show no instances of the formerly literal sense, then the sense which was originally metaphorical will be assigned to this category.

It seems that identifying and then excluding innovative and historical linguistic metaphors is relatively straightforward if corpus frequencies are used as a guide. The boundary discussed in the following section is more problematic. It is also an extremely important boundary as it marks the difference between living and dead metaphors.

4.5.4 The identification of conventional (living) and dead metaphors: the problem

That there is a difference between the types of linguistic expression which I refer to as conventional and dead metaphor seems to be generally agreed. For instance, Goatly draws this distinction when he separates Tired from Sleeping metaphors. Deciding which category particular linguistic expressions belong to is done intuitively by him and other writers quoted in this section. Intuitive categorisation brings with it the danger of inconsistency in the analysis of a large quantity of data. The difficulty of objectively separating the two classes is outlined here, and an attempt to resolve it is explained in the following section.

It is frequently noted that metaphor is one of the established ways in which words develop and change in meaning, that it constitutes an evolutionary process which has helped to shape the language into its current form and continues to shape it (Ullmann 1962, Palmer 1974, Dirven 1985, Sweetser 1990). Because some of these semantic developments took place centuries ago, the language contains a large number of lexical items which are metaphorical in origin but which may not

be perceived as figurative by current speakers. Halliday claims

Much of the history of every language is a history of demetaphorizing: of expressions which began as metaphors gradually losing their metaphorical character. (1994: 348)

Kittay makes the same point using an interesting analogy; she compares language to a city such as Jerusalem which has been conquered, demolished and rebuilt many times, so that what may have been the decoration of one building becomes integrated into the foundations of a subsequent one. She continues:

Language, similarly, has an archaeological, layered quality. We must decide at a given point whether we take a diachronic stand or a synchronic stand. Whether we characterise a term as metaphorical or literal may well depend on which stance we take. (1987: 21)

Taking a diachronic stance, the evolution of a word or a sense through various metaphorical extensions might be studied. However a synchronic study such as this focuses on a snapshot of lexical meaning in which former metaphors may sometimes be regarded as literal.

While most researchers agree on the general point that some or all metaphors gradually lose metaphoricity over time, the point at which this happens is often taken as self-evident rather than established systematically. For example, Halliday asserts that

... no-one now thinks of **source** as a metaphor in ‘the source of the trouble’; or **dream** in ‘I wouldn’t dream of telling him’; or **barrier** in ‘there is no barrier to our mutual understanding’. (1994: 348)

Without defining more explicitly what is understood by ‘metaphor’, it is difficult to either agree or disagree with this statement. The central difficulty seems to lie in distinguishing between two different kinds of semantic relatedness. The first kind concerns pairs of polysemes consisting of a non-metaphorical sense and a living metaphor. If the metaphor is not innovative but established in the language, it is referred to as conventional metaphor and placed in category two of my model. The second kind of semantic relatedness concerns polysemes which were once metaphorically-related but which are not now perceived as such. The formerly metaphorical sense is termed a dead metaphor and placed in category three of the model.¹ Conventional metaphors would be termed Tired, and dead metaphors, Sleeping in Goatly’s model.

Applying the above distinction in specific cases is not straightforward. Two citations from the concordance of **deep** exemplify the problem.

The crimsons, **deep** and medium blues, purples, maroons and **deep** pinks lose a little of their brightness when cut.

Later on I bought a **deep** blue carpet

Deep refers to intensity of colour here, a sense which is listed as figurative in the *Shorter Oxford English Dictionary* (Little *et al.* 1973), being an extension of ‘measurement’ **deep**. The first citation of this extension noted by the editors of the

¹This use of the term ‘dead metaphor’ is disputed by contemporary theorists who argue that such ‘dead’ metaphors represent ways of thinking which are very much alive (for example Lakoff 1987b). Here the term is intended to convey loss of linguistic metaphoricity rather than lack of conceptual significance.

Shorter Oxford English Dictionary is from the sixteenth century (1973: 504). This ‘colour’ sense is now reasonably frequent, accounting for 26 of 500 randomly selected corpus citations of **deep**, or approximately 5% of the sample (Study 13).

Applying Goatly’s distinction between Tired and Sleeping metaphors to this problem involves deciding whether ‘colour’ **deep** evokes ‘measurement’ **deep** to some degree. Intuitively I feel that it does not, that the ‘colour’ sense has lost its former metaphoricity, and I would regard the relationship between the ‘colour’ and ‘measurement’ senses of **deep** as one of non-metaphorical (but originally metaphor-based) polysemy. I would therefore classify the ‘colour’ sense as a dead metaphor rather than a conventional metaphor, in my terminology. However, as I have shown earlier in this chapter, language users do not always share intuitions about word meaning and it is possible that other users might perceive metaphoricity in this sense, considering it to be a conventional metaphor. This demonstrates the difficulty of making a decision about an individual lexeme; any decision may seem intuitively correct to the individual researcher, and can usually be justified *ad hoc* in some way, but both the decision and the justification may strike others as unsound.

Different categorisations of metaphor may draw the line between the cases of conventional and dead metaphor at different points and for different reasons, but within any one study they must be distinguished with consistency, or conclusions as to the frequency and distributions of conventional metaphors will be unsound. In the following sections I attempt to establish a procedure for deciding on such

cases. This leads to the development of procedures for classifying instances of metaphorical meaning using a combination of semantic and linguistic analyses.

4.6 METAPHORICAL MEANING: DISTINGUISHING LIVING AND DEAD METAPHOR

4.6.1 Coreness and dependency

It seems generally agreed that non-dead metaphors evoke their literal counterpart at some level while dead metaphors do not (Goatly 1997, Apter 1982). This is also implicit in the contemporary theory that metaphors work by transferring meanings in such a way that the target domain is understood through the speaker's knowledge of the source domain (for example, Johnson 1987, Lakoff 1987a, Gibbs 1994). This dynamic quality will be used to distinguish living, conventional metaphors from dead metaphors. In order to implement this distinction without relying on subjective perceptions it is necessary to specify the notion of a dynamic metaphorical relationship into elements which can be measured more objectively.

If a living metaphorical sense is interpreted by evoking, at some level, a literal counterpart, it follows that the literal sense must be more psychologically 'core' than the metaphorical sense. The metaphorical sense must be 'dependent' on the literal sense in some way. These notions of coreness and dependency can be used to construct a distinction between conventional and dead metaphor as follows.

Where one sense of a lexeme is perceived as more core than another established sense, and where the second sense appears to have developed from the first

through metaphorical extension, the second sense will be regarded as a living, conventional metaphor. Where such a relationship of coreness and dependency between two senses of a lexeme is not apparent, the formerly metaphorical sense will be regarded as a dead metaphor.

Kittay's scheme for identifying metaphor appeals to similar notions (1984). She discusses the example of **rock**, referring to Reddy's (1969) discussion, in which it is used to refer metaphorically to an emeritus professor. Using Grice's (1969) notions of 'timeless' and 'occasion' meaning, she develops the categories 'first order meaning' and 'second order meaning'. First-order meanings correspond to Grice's timeless meanings, which in the case of **rock** include 'the various senses of 'rock' in English, as a noun, solid mineral matter; as a verb, to move back and forth, etc.' (p. 156). Second-order meanings correspond to occasion meanings and include the metaphorical use of **rock** to refer to a professor. Kittay writes 'First and second-order meanings are related in that second-order meaning is some function of first-order meaning' (1984: 157). The notions of first and second-order meanings correspond closely to my uses of the terms coreness and dependency. Unfortunately Kittay does not show how to identify which senses of a polysemous lexeme are second-order meanings. In my terms, this is the problem of identifying dependency, which I tackle in the next two sections using two types of test.

4.6.2 Linguistic tests for coreness and dependency

Coreness and dependency in a pair of related senses can be established in two

ways: through a linguistic study of citations of the lexeme, and through a semantic analysis of each sense. In the first method, citations of the metaphorical sense are examined for linguistic evidence of dependency. This is found where the metaphorical sense is normally qualified using lexis from the target domain. For example, the metaphorical uses of **mouth** discussed by Cruse are normally post-modified by **of+target domain noun**. Cruse points out that unmodified **mouth**, as used in the utterance ‘At school we are doing a project on mouths’ is assumed to refer to the non-metaphorical sense: mouths of humans or possibly animals (1986: 72). This is taken here as evidence that the metaphorical sense of **mouth** is dependent on the literal sense, which is core.

In a study of 500 citations of **machinery** (Study 14), it was found that the metaphorical senses were almost invariably qualified within the noun phrase, by lexis from the target domain.

1. Mr Heseltine appears to have taken more direct control over the civil service **machinery** in Whitehall.
2. ... the **machinery** of government seemed to tilt the scales of justice
3. ... arcane **machinery** that finances the public schools
4. I had a sensation as of **machinery** running.
5. ... an array of expensive new **machinery**

In the first three citations, **machinery** is used with an established metaphorical sense to refer to legal and governmental systems. In the final two citations, **machinery** is used with its literal sense. It can be seen that in the first three citations **machinery** is qualified using lexis from the target domain. It seems likely that where there is no indication of domain within the noun phrase of which

machinery is head, the lexeme is normally interpreted literally.

The regular qualification of the metaphorical sense of **machinery** is linguistic evidence of dependence, indicating that this linguistic metaphor is living. Its frequency shows that it is not innovative, and it is therefore assigned to category two of the model, conventional metaphor.

Dependent senses of some verbs can also be identified linguistically. 500 citations of **starve/ starved/ starving/ starves** were studied, and citations of metaphorical senses were found to show signs of dependence (Study 15). The following randomly selected sample of 18 citations includes four citations, 4, 9, 10 and 18 (highlighted in bold), in which the verb is used metaphorically, referring to suffering because of the lack of something other than food. In each case, the verb is qualified by an item from the target domain, which indicates that it is not to be interpreted in its core sense. Where the verb is not qualified in any way, the interpretation is literal.

1. he simple reasoning that they were starving and could get a little
2. and Croats were tortured, shot and starved. Atrocities were also
3. of her veggie burgers to the starving Bosnians. Just after she
4. **only 5 per cent of the oxygen-starved cells survived. But with**
5. produce sarin # were seized and 50 starving, drugged women were
6. Chicken wings. And Anastasia was starving. Her stomach rumbled. She
7. village there was an old woman who starved herself to give what she
8. to have international sanction to starve him into surrendering his
9. **this meant he was frequently starved of weapons as a result.**
10. **selection in Athens where I was starved of English reading. <p> B**
11. punishing poor children, kids are starving, people can't stand it."
12. in Somalia is to deliver food to starving people, not to disarm
13. who could, in the name of the starving, raise the demand that
14. like animals, if one human being starve, that cuts down the value
15. foreigners would be the first to starve. The ambassadors were also
16. Wednesday." By that time we could starve to death!" Linda
17. ld that had been living on refuse starved to death (reported in
18. **sort plan SUVA: Fiji's investment-starved tourism industry has**

This pattern was seen over the whole concordance extract studied. Of the 500 citations of **starve/ starved/ starving/ starves** examined, the lexeme is used metaphorically in 105. In each case the verb appears in one of three structures. In 53 cases it occurs in the structure **starv*+of+noun** (for example, *starved of weapons*), in 32 cases in the structure **noun+-+starved** (for example, *investment-starved*) and in 20 cases in the structure **starv*+for+noun** (for example, *starving for publicity*). Again, the regular qualification of the metaphorical sense is taken as indicative of dependency. This sense of **starve** is therefore a living, conventional metaphor.

In these examples, concordance studies show that metaphorical senses are qualified by target domain lexis, and that instances of the lexeme which are not qualified in any way are interpreted literally. This is a clear linguistic indication of dependency and hence of live, conventional metaphoricity. However, not all conventional metaphors are qualified linguistically, and so linguistic evidence is regarded as a sufficient but not necessary condition for identifying dependency.

Where a concordance examination is inconclusive, semantic analysis can distinguish conventional from dead metaphors.

4.6.3 Semantic tests for coreness and dependency

In this section, I attempt to identify semantic components which can be found in core and dependent senses of a lexeme. The central distinction which I make is between concrete and abstract reference.

Implicit in many discussions of metaphor is the assumption that, prototypically, vehicles are concrete and topics are abstract. For instance, the metaphors regarded as most cognitively significant in the contemporary theory are those which enable us to interpret abstract topics through concrete experience. Non-experts also seem to perceive concrete- abstract mapping as prototypical, as an experiment by A. Katz shows. He supplied informants with metaphorical statements of the 'X = Y' type, in which the topic was provided but not the vehicle. He found that 'people prefer to complete a metaphor with a concrete rather than an abstract vehicle' (1989: 495). Concrete- concrete and abstract- abstract mappings do exist, but are less important in the contemporary theory, and apparently less prototypical to non-expert language users such as Katz's informants.

Contemporary theorists describe concrete-abstract mappings in terms which are suggestive of my notion of dependency. This happens when they argue that abstract topics cannot be understood in their own terms but only through metaphors which relate them to our concrete, physical experience (Lakoff and

Johnson 1980, Lakoff 1993). For instance, abstractions such as emotions are interpreted through the concrete experience of directionality in the mapping HAPPY IS UP. If the target domain is filtered through the source domain in this way, it follows that the concrete vehicle is more psychologically core to speakers than the abstract topic, and that the interpretation of the abstract topic is dependent on knowledge of the vehicle. This would suggest that where a lexeme has a pair of metaphorically related concrete and abstract senses, the concrete sense is core and the abstract sense dependent on it. This is exemplified using citations of two senses of **soar**.

... the glider **soars** effortlessly on the warm air.
 For the first time in months my spirits **soared**.

In the first citation, **soar** has concrete reference and in the second it has abstract reference. As the two senses are related by a metaphorical mapping, HAPPY IS UP, the second sense is dependent on the first. Dependence has been described as a sign of living metaphoricity above. As this sense of **soar** is clearly not an innovative metaphor, it is therefore placed in the second category in my model, conventional metaphor.

I argued above that dead metaphors and their literal counterparts do not have a relationship of coreness and dependency. This means that a metaphorical mapping from concrete to abstract does not result in dead linguistic metaphors but in living conventional or innovative ones. However, an established concrete-concrete mapping will result in dead metaphor, because a pair of metaphorically-related

senses which both have concrete reference are perceived as equally core.

The above distinction helps with the problem discussed above of categorising an originally figurative sense of **deep**. Using the criterion of concrete/ abstract reference, the ‘colour’ sense of **deep** is not dependent on the ‘measurement’ sense of **deep** although the former was originally derived from the latter by a process of metaphorical extension, because the colour sense has concrete reference.

However, the sense of **deep** meaning ‘intense’, used in **deep admiration** and **deep depression**, has abstract reference and so is still perceived as dependent on ‘measurement’ **deep**. Using this criterion, ‘colour’ **deep** is a dead metaphor while ‘intense’ **deep** is a conventional metaphor.

An exception to the above is very recent metaphors, which are always perceived as dependent regardless of whether they have concrete or abstract reference. This is because speakers are aware of their newness and their derivation from the meaning of another sense. Where a new metaphor has concrete reference, it will lose any sense of dependence on its literal counterpart and quickly become a dead metaphor. This means that the relatively new metaphorical sense of **mouse**, meaning a piece of computer equipment, will quickly become dead.

Besides the fundamental concrete-abstract distinction, coreness and dependency can be established in two other distinctions: denotative and evaluative meaning, and human and non-human reference.

Where a lexeme has an evaluative and a denotational sense, the evaluative sense will be perceived as dependent, because it highlights attitude, an abstract quality, while the denotational sense will be perceived as core. This applies to many animal metaphors used to describe human qualities, such as the metaphorical sense of **monkey**.

She's such a little **monkey**

The metaphor highlights abstract qualities and so will be perceived as dependent on the literal sense of **monkey**, which has concrete reference. This means that it is a living, conventional metaphor.

Metaphors derived from parts of the body present a special case, in that because the human body is so central to our physical experience of the world, senses referring to it will always be perceived to be psychologically core. Other senses whose reference is not to the human body will be perceived as dependent even where they also have concrete reference. Thus **heart** (of the human body) will be perceived as more core than **heart** (of a city) although both have concrete reference. **Heart** (of a city) is therefore a conventional metaphor.

In this section, I have outlined semantic features which I believe to be associated with coreness and dependency. The presence or absence of these features can be used to decide whether a particular metaphor is conventional or dead. This test gives results which accord with intuition for the examples considered, but it is recognised that ultimately there can be no objective way of deciding which senses

of a lexeme are living and which dead metaphors.

4.7 SUMMARY

The following table summarises the types of metaphorically-motivated linguistic expression described in this chapter and the ways in which these can be identified.

Table 4.5 Identification and classification of metaphorically-motivated linguistic expressions

Types of metaphorically-motivated linguistic expression	Identification	Example
1. Innovative metaphors	Fewer than one citation per thousand OR All citations from a single source.	He held five icicles in each hand. (Larkin, cited in Goatly 1997: 34)
2a. Conventional metaphors: one-shot	Metaphorical sense dependent on core sense by linguistic and/or semantic criteria. No source domain collocates mapped onto same target domain.	The wind was whispering through the trees. (Allbritton 1995: 35)
2b. Conventional metaphors: systematic	Metaphorical sense dependent on core sense by linguistic and/or semantic criteria. Some source domain collocates mapped onto same target domain.	grasp (Lakoff 1987b) (spending) cut (Goatly 1997) There is no barrier to our understanding. (Halliday 1994)
3. Dead metaphors	Metaphorical sense semantically related to a literal sense. Metaphorical sense not dependent on a core sense by either linguistic or semantic criteria.	deep (of colour) crane (machine for moving heavy objects) (Goatly 1997)
4. Historical metaphors	Formerly literal sense either not represented in corpus or so different in meaning as to be homonymic for current speakers.	comprehend, pedigree, pupil (young student)

In this chapter I have developed a series of tests for dividing the meaning of lexemes at the intermediate level of delicacy which seems most appropriate for the purposes of this thesis. I have then categorised types of metaphor in order to isolate the conventional metaphors which are the subject of later studies. Such models are inevitably tentative and open to different interpretations in individual cases, but it is believed that developing such a model is preferable to proceeding *ad hoc*.

In the studies which make up the second half of this thesis, I use the model developed in this and in the previous chapter to isolate instances of conventional metaphor from innovative and dead metaphors. I then study a number of linguistic features of conventional metaphors. In the following chapter I describe the corpus methodology which is used to conduct the studies.

5. METHODOLOGY

5.1 INTRODUCTION

I have spent the first four chapters of this thesis outlining a model of metaphorical meaning based on the contemporary theory. I have attempted to develop a model which can be used to describe and classify linguistic expressions of non-literal origin found in naturally-occurring data. In Chapters Six to Nine, I describe four investigations into aspects of linguistic metaphor, based on corpus data. In this chapter I describe the methodology that was used in carrying out those studies and I then consider its advantages and limitations as a tool for the examination of linguistic metaphor.

5.2 COMPUTERISED CORPORA

5.2.1 Types of computerised corpora

A computerised corpus is a collection of texts held in electronic form, which can be studied using computer programmes. The development of computerised corpora as a tool for investigating language began in the 1950s (Leech 1991). The huge increase in the capacity of computers since then has been reflected in vast increases in the size of electronically-held corpora. Leech points out that early corpora such as the Brown corpus of American English and the Lancaster-Oslo/Bergen (LOB) corpus of British English, each consisting of a million words, were considered massive in the 1970s (*ibid.*). In contrast, by the mid-1990s,

corpora of several million words could be assembled and processed using desktop computers, while specialist users had access to corpora consisting of hundreds of millions of words. The speed and flexibility of the software used to study corpora has similarly increased, although according to some researchers progress has not been sufficient to cope with the vast amounts of data now available (Collier 1994, 1997, McEnery and Wilson 1996).

Leaving aside the issue of size, there are three important ways in which the various existing synchronic English corpora differ: the genre of the texts included, the inclusion of either whole or sampled texts, and whether the corpus is added to over time.

The first distinction is that between a specialised and a non-specialised corpus (Leech 1991, Greenbaum 1991). Specialised corpora consist of texts from a specified register or genre, such as business English, the English of non-native speakers, or writing by a specific author. Researchers use such corpora to identify and describe typical features of that register for purposes such as specialised language teaching or literary analysis. Non-specialised corpora consist of a selection of texts which is usually intended to be balanced in such a way that generalisations about the language as a whole can be drawn from it. Such corpora are used to assist in the description of language for purposes such as lexicography and language teaching. Deciding which texts should be included to ensure representativeness in a non-specialised corpus is obviously far from straightforward.

Secondly, the constituent texts of a corpus may be sampled or included as wholes. Some corpora, such as the British National Corpus, contain a combination of sampled and whole texts. Sampling has the advantage that the number of words from each text can be exactly matched, and because of this, it is often used where corpus-designers wish to be as scrupulous as possible to ensure a balanced proportion of each text type. However sampling has the disadvantage that it may lead to a corpus which is under-representative of linguistic features that are particular to certain parts of texts (Stubbs 1996). If, for example, only a few thousand words of each text are taken, the beginnings and/ or the ends of most texts will be lost, and with them usages typical of these positions. A further argument for using large samples is demonstrated by Biber in a detailed analysis of the effects of sampling (1993). He shows that while frequent language forms seem to be distributed in a stable fashion and can be represented by text fragments of 1000 words, rarer linguistic features are more unevenly distributed in texts. This suggests that they may be lost unless large text samples are used.

A third important distinction is that between closed corpora and those which are being added to over time. Most early corpora, such as Brown and LOB, are of a predetermined size; texts are assembled over a relatively short period of time, and the corpus is then complete and closed. The British National Corpus is also of this type (McEnery and Wilson 1996). The International Corpus of English (ICE) consists of a number of fixed sub-corpora of regional varieties of English, each consisting of 1 million words, which allows for comparisons to be made across

corpora (Greenbaum 1991). The second type, non-closed corpora, are known as *monitor corpora* (Renouf 1987: 21, Sinclair 1991: 25- 27). Johansson describes monitor corpora as ‘gigantic, slowly changing stores of text’ (1991). As this suggests, monitor corpora are not static but change as texts are added to them, a process now fairly easy because of the wide availability of texts in machine-readable form. Texts are usually discarded after an agreed period, such as ten years. A monitor corpus thus enables researchers to study large quantities of very recently produced texts.

5.2.2 The Bank of English

The corpus which has been used for the studies described in this thesis is the Bank of English, which is owned by Collins Cobuild and held at the University of Birmingham. It is general rather than specialised and consists only of whole texts. It is a monitor corpus which contained 323 million words at August 1997. The composition is detailed in the table overleaf.

Table 5.1 Composition of the Bank of English at August 1997

Sub-corpus	Text-type	Number of words	Percentage of corpus
British English			
Guardian newspaper	Broadsheet newspaper: written	24,261,095	7.5
Times newspaper	Broadsheet newspaper: written	20,950,497	6.5
Independent newspaper	Broadsheet newspaper: written	19,452,295	6
Today newspaper	Tabloid newspaper: written	26,606,537	8.2
Economist	Semi-specialist magazine: written	12,125,208	3.8
New Scientist	Semi-specialist magazine: written	6,087,440	1.9
Popular magazines	Popular magazines: written	30,137,896	9.3
Books	Fiction and non-fiction: written	42,127,619	13
Ephemera	Letters, advertisements: written	4,721,964	1.5
BBC World Service	Radio broadcasts: semi-scripted spoken	18,522,600	5.7
Spoken	Informal spoken	20,181,050	6.2
Total British English		225,174,201	69.6
US English			
Newspapers	Newspapers: written	8,578,632	2.7
Books	Fiction and non-fiction: written	32,656,385	10.1
Ephemera	Letters, advertisements: written	1,255,655	0.4
National Public Radio	Radio broadcasts: semi-scripted spoken	22,259,602	6.9
Total US English		64,750,274	20.1
Other			
Australian newspapers	Newspapers: written	33,378,314	10.3
Total		323,302,789	100

Source: CobuildDirect August 1997. Information about CobuildDirect is available on the World Wide Web (<http://titania.cobuild.collins.co.uk/>).

Because it is a monitor corpus, the Bank of English has grown in size during the lifetime of this thesis. Some of my early studies were conducted at the time when the corpus consisted of around 211 million words, while more recent work was based on the current (1997) 323 million word corpus. In order to maintain comparability across the studies, absolute numbers of occurrences are not generally used here. Instead, random samples of between 200 and 1000 citations of each word form are studied. This means that features such as the frequency of conventional metaphorical uses of lexemes can be compared even where the corpus itself has changed in size between the studies of different lexemes. The proportion of different sub-corpora has inevitably shifted slightly as the corpus has increased, but as the linguistic features studied here do not seem to be register-specific, this is unlikely to have affected the results significantly. Unless otherwise noted, all sub-corpora were used for each of the corpus studies described here.

The size of concordance extract used for each study was decided by the purposes of the study and by features of the lexeme. Where I simply wanted to establish the existence of a conventional linguistic metaphor or collocational or syntactic pattern, a sample of 200 citations is usually sufficient. Where I wanted to carry out a more detailed analysis of the different senses, collocational patterns or syntactic patterns of a lexeme, I have generally examined 1000 citations. Highly polysemous lexemes necessitate the use of larger samples than lexemes which have only two or three senses, as a sample of citations of a highly polysemous

lexeme will yield fewer citations of each sense than the same sized sample of a lexeme which has fewer senses. A large sample is also required for the grammatical analysis of lexemes illustrating a wide variety of syntactical patterns, for the same reason.

5.2.3 Studying the corpus

The most common way of studying a corpus for linguistic purposes is by using a concordancing programme. This enables the researcher to study a word form (or forms) by looking at large numbers of citations of it in its linguistic contexts. The data is usually presented in Key Word in Context format (KWIC), in which the word to be studied, or *node*, is presented in the centre of the screen or page, with context on either side¹. The citations can be sorted in various ways. In the following KWIC concordance extract, they have been right-sorted, that is, ordered alphabetically by the word immediately following the node **heated**.

```

1. For instance, I found myself in heated argument the other day over
2.prison has long been the source of heated debate, as campaigners
3. <p> I vividly remember having a heated debate with my boss, 23
4. the night, make sure his room is heated independently. <p> A cold
5. likes to laugh.<p> Pro: can be heated like a hot water bottle in
6.East Germany. The issue has caused heated political argument, as Igor
7. I rose at 5 a.m. to battle with heated rollers and the few
8.orrison was behind schedule. <p> A heated telephone exchange between
9. conducts electricity poorly; when heated, though, it turns into a
10. special offers every month on heated towel rails and selected
11. site near London. Tyres are heated up to 1080 degrees C in a
12.Thank God for a small house which heated up quickly. Rosie sat down

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(<p> signals the start of a new paragraph in the original text.)

It can be seen that right-sorting makes it easier for the researcher to identify the

¹ All programmes discussed and illustrated here have been developed by, and are the property of, Collins Cobuild, a division of HarperCollins Publishers.

items which are modified by **heated**, because when the same item appears several times, these citations cluster together, as in the second and third lines of the above extract. A study of the nouns modified by **heated** in this extract suggests that the lexeme has a relatively frequent non-literal sense. Even from this very small sample it is clear that **heated** can be used metaphorically to modify words which refer to a spoken exchange, and this is confirmed when the full concordance is studied.

The following concordance extract has been left-sorted, i.e. sorted by the word immediately preceding the node.

1. 12 per cent cut over two years, are a **blow** to its prestige and
2. She felt him bracing himself for a **blow** as a soldier might. `And
3. drop whatever it is in the water and **blow** it up on the run-out
4. out of Wimbledon so that's a bad **blow** for them isn't it really
5. and Gattling's injury was a body **blow**. <p> The 37-year-old
6. of Ravenscraig is a devastating **blow** to Scotland, a final act
7. for privatisation received a fresh **blow** yesterday when a senior
8. an end. <p> Still, it came as a huge **blow** when head coach Wayne
9. banking institution was the latest **blow** to New Zealand's
10. Championship hopes suffered a serious **blow** yesterday when Welsh
11. says the rebels have threatened to **blow** up the hostages unless
12. that having no evidence, this would **blow** up in his face, and yet

Where the node is a noun, as above, left-sorting enables the researcher to see quickly which groups of words premodify it. It can be seen above that adjectives indicating size or extent, such as **devastating**, **huge** and **serious**, tend to appear in this position, and that these tend to evaluate negatively.

It is also possible to sort by words further from the node, a facility which can be useful when looking at some fixed expressions. For instance, the concordance of **footsteps** can be sorted by the word three slots to the left of the node to isolate

some citations of the expression **follow/ed/s/ing** in someone's **footsteps**.

1. is unlikely to **follow** in the **footsteps** of his grandfathers and
2. British riders to **follow** in their **footsteps** without innovations
3. inspire many to **follow** in their **footsteps**. <p> As the Queen
4. that he would **follow** in their **footsteps**. After Sutton Valence
5. hough he decided to **follow** in the **footsteps** of Frank Salisbury at a
6. its charms may even **follow** in the **footsteps** of Mr McKechnie, who
7. has been chosen to **follow** in the **footsteps** of Gerard Depardieu and
8. <p> Who will **follow** in the **footsteps** of Bernhard Langer,

The context of a citation can be expanded to allow the researcher to disambiguate a use. For instance, the fourth citation in the above extract does not give sufficient context for an unambiguous interpretation of **footsteps**, which could be understood either metaphorically or literally. An expanded context shows that it is a metaphorical use.

Both his parents were artists, and it was never really doubted that he would **follow** in their **footsteps**. After Sutton Valence School he went straight to Chelsea Art School, and from there to the Slade.

Data can also be studied in the form of columns of collocates. These are calculated by the computer from the concordance. In the following listings the node is **crescendo**.

1. to	to	a	NODE	of	the	and
2. a	a	the	NODE	and	a	the
3. reached	reached	its	NODE	in	an	to
4. and	in	deafening	NODE	as	and	in
5. up	the	rising	NODE	with	then	he
6. in	reaches	steady	NODE	<p>	he	of
7. rising	of	in	NODE	the	his	that
8. rose	an	this	NODE	that	boos	had
9. there	with	great	NODE	to	it	<p>
10.the	reaching	final	NODE	after	violence	from

Each column shows collocates in descending order of frequency. For instance, in the column immediately to the right of the node, the item **of** appears first,

followed by **and** and **in**, indicating that these are the most frequent items to appear to the right of the node in the entire concordance. Similarly, the column immediately to the left of the node gives the words appearing most frequently to the left of **crescendo** in the concordance.

As delexical words such as determiners and prepositions are a great deal more frequent than lexical words, the former tend to dominate columns of collocates such as the above, and in most cases they do not represent significant collocations with the node. For instance, the appearance of the indefinite and definite articles in the column immediately to the left of the node would be expected for almost any count noun. However the presentation of data in columns does provide some useful information. For instance, the above output shows that **reached** is the verbal form of which **crescendo** is most frequently the object. It also suggests that **crescendo** is used in prepositional phrases such as ‘to a crescendo’ and is post-modified by prepositional phrases, such as ‘a crescendo of ...’.

This way of presenting corpus data gives the researcher an overall view of the most frequent collocates of a node. The Bank of English version of the programme can be used to calculate collocates over entire concordances of many thousands of citations. Human memory limitations mean that it would be very difficult to glean such an accurate impression of the collocational profile of a word by manually scrolling through hundreds of screenfuls of concordance citations. Exact frequencies of each collocate can also be obtained from the programme, together with statistical measures of the significance of each. It will

be noticed that this programme does not lemmatise, and the implications of this for particular types of collocations are discussed in Chapter Seven.

Data presented in this form are a very useful starting point for an investigation of word meaning and use, but conclusions can rarely be drawn from this alone. This is because collocational patterns are often found across different senses of a word. For instance the combination of **crescendo** and **of** appears with both the literal and metaphorical senses of **crescendo**, as the following concordance extract demonstrates. The extract is sorted by the word occurring two slots to the right of the node.

1. gold at the Games, crashed out to a **crescendo** of **boos**, failing to
2. removed and another faqir rose to a **crescendo** of **drumming** and, with
3. failed to unite the hall in a **crescendo** of **emotion**. He is, it
4. Oct. 1, `the leaks have risen in a **crescendo** of **prejudicial news**
5. protest gained momentum. When the **crescendo** of **protest** peaked on
6. fur ride over her until, with a **crescendo** of **screeches**, they
7. the screaming of horses and the **crescendo** of **shrill women's laug**
8. rugby, lined up a sixth to a **crescendo** of **slow hand-clapping**
9. rose to their feet to create a **crescendo** of **sound** which rolled
10. behind your attacks which saw a **crescendo** of **violence**. For six

The same pattern is sometimes found for lexical collocates. For instance, an examination of citations in which **crescendo** is the object of **reached** shows that the combination occurs when **crescendo** is used in both literal and metaphorical senses, as in the following citations.

The singer **reached** a **crescendo**.

Speculation invariably **reached** a **crescendo**.

A programme which counts and orders collocates in columns by frequency is

useful as the starting point in the examination of corpus data, and it also provides statistics which would be extremely tedious to extract manually. However, it is necessary to supplement this output with an examination of concordanced data, and in some cases a larger amount of context must be examined in order to disambiguate uses.

5.3 USING CORPORA

5.3.1 Corpus-based language description

Concordancing and related ways of studying large corpora have obvious applications in lexicography, which has long recognized the importance of considering citations from language in use (Krishnamurthy 1987). The centrality of corpus work for modern lexicographers is demonstrated by the fact that almost all of the most recent generation of English dictionaries for the non-native speaker market claim to have been based to some extent on corpora (for example Cambridge International English Dictionary (Proctor *et al.* 1995), Collins Cobuild English Dictionary (2nd edition, Sinclair *et al.* 1995), Longman Dictionary of Contemporary English (3rd edition, Summers *et al.* 1995), Oxford Advanced Learner's Dictionary (5th edition, Crowther *et al.* 1995)).

Interest in corpora for other areas of language description is also growing rapidly. These areas include the analysis of specific registers (for example studies in Thomas and Short 1996 and Stubbs 1996) and studies of lexical grammar (for example Renouf and Sinclair 1991, Halliday 1993, Hunston 1995, Francis *et al.*

1996).

5.3.2 Existing corpus studies of linguistic metaphor

Much writing on metaphor begins with a discussion of metaphorical linguistic expressions, illustrated with examples of language overheard by the author or copied from newspapers or novels. It can therefore claim to be based on corpora, if that term is interpreted in a broad sense as ‘a collection of authentic texts’. However, the linguistic elements of such work seem to be driven principally by intuitions about language, and the authentic data is generally used merely to confirm these intuitions, often unsystematically. Because corpora appear to be supportive rather than lying at the heart of work of this type, I do not consider it to be corpus-based.

Kövecses, in his discussion of the conceptual metaphors of happiness, summarises his methodology as follows:

... in order to be able to arrive at [the] metaphors, metonymies, and inherent concepts, and, eventually, [the] prototypical cognitive models, one needs to study the conventionalized linguistic expressions that are related to a given notion. (1991: 30)

He describes gathering linguistic data for a study of metaphors used to talk about friendship (1995). He used interviews about the topic and also asked informants to write lists of sentences containing the item **friend** or **friendship**. A corpus of linguistic data gathered in this way and analysed systematically may result in findings which are less strongly influenced by the researcher’s personal language

experience than studies which begin with intuitions and use corpus data to support them. Nonetheless, it seems likely that elicited data may contain a higher proportion of innovative metaphors and thus tell the researcher less about conventional language use than naturally-occurring data, because informants may feel that they should demonstrate eloquence and inventiveness.

There are a small number of studies of non-literary linguistic metaphor which have been based on small specialised corpora of naturally-occurring language. These tend to be ideological in focus, concentrating on how metaphors are used to persuade, as noted in Chapter One. A number of writers have compiled corpora of political texts taken from journalism and other sources. Such work includes several studies of the metaphors used to talk about the Persian Gulf War, based on corpora of journalism and political speeches (Voss *et al.* 1992, Pancake 1993, Rohrer 1995). Other studies which tackle the ideological bias of texts include Romaine's study of writing about the environment (1996), Semino and Maschi's work on Berlusconi's use of metaphor (1996) and the work of van Teeffelen (1994) and Patthey-Chavez *et al.* (1996) on various genres of fiction.

Throughout these studies, the writers' concerns seem to have been to use an analysis of metaphor to prove an ideological bias in texts. The use of authentic data gives conviction to their conclusions. Nonetheless, these studies are not truly corpus-based in the tradition of recent language description corpus work. The writers examine neither all their data nor a specified random selection of it, as lexicographers and other corpus linguists do. Neither are they concerned with

linguistic features such as polysemy and collocation. Linguistic metaphors are studied not for their own sake but as a means of discovering more about metaphor and thought or metaphor and ideology, and in this they differ from the studies described in Chapters Six to Nine below.

5.3.3 Methodology of the studies of linguistic metaphor in this thesis

The direction of investigation in corpus studies is inevitably from linguistic form through to meaning. It is not possible to use the corpus to proceed from general principles through to linguistic realisations, as there is currently no way of accessing general rules of language from a corpus. Computer programmes can organise language data swiftly and accurately on orthographic principles, but the task of identifying and describing features such as grammatical patterns, meaning and pragmatic use can only be done by a human analyst (Clear 1987). The corpus researcher who attempts to develop valid generalisations about language meaning and use has to sift through a large amount of linguistic data, looking for regularities and patterns. This implies that corpus analysis of meaning must be bottom-up rather than top-down.

Existing descriptions of language, such as grammars, dictionaries and thesauri, can help to streamline the process of analysis, as they will suggest lexical items for investigation and patterns to look out for. However, early corpus work has shown that there is often a wide discrepancy between existing, intuition-based analyses of language and the facts about language use revealed through corpus studies (Sinclair 1991). This suggests that corpus analysis should not be over-

reliant on existing non-corpus-based descriptions of language.

In these studies of metaphor, the direction of investigation is from linguistic to conceptual metaphor. Clearly, the computer cannot work from a list of conceptual metaphors to identify their linguistic realisations. This means that to establish the existence of a conceptual metaphor such as HAPPY IS UP, it is necessary to list its potential linguistic realisations and then trawl concordance lines to see if they occur. For this example, this would involve identifying lexical items from the source domain of upward direction and establishing which are regularly used to talk about the target domain, happiness. The process can be assisted by the use of a range of thesauri, which will provide a reasonably complete list of items in the source domain. Existing discussions of metaphor often provide intuitively generated lists of linguistic expressions, which can also be used as a starting point for corpus searches.

Once retrieved, a concordance will show the researcher the linguistic contexts in which a lexical item is used, but this information then has to be processed manually. For the purposes of metaphor research, it is necessary to decide which citations should be regarded as figurative uses. At present there is no automatic way of doing this, and the researcher depends on informed intuition to decide whether a particular citation of a word is metaphorical, within his or her own understanding of 'metaphor'. The next stage is to exclude instances of innovative, dead and historical metaphors. The model of metaphorical meaning used within this thesis has been described in Chapters Three and Four.

When a group of citations have been identified as conventional instances of a particular linguistic metaphor, the researcher may want to find out whether these are realisations of a known conceptual metaphor. For instance, it seems highly likely that the metaphorical use of **heated**, evidenced in the following citations, is a realisation of ANGER IS HEAT (Yu 1995).

1. For instance, I found myself in **heated** argument the other day over
 2. prison has long been the source of **heated** debate, as campaigners dem 3.
 <p> I vividly remember having a **heated** debate with my boss, 23

However, it is not always so straightforward to assign linguistic metaphors to conceptual metaphors, for several reasons. Firstly, there is no existing list of conceptual metaphors which is recognised as complete. The best-known attempt to list the conceptual metaphors of English is that begun by George Lakoff on the World Wide Web (<http://cogsci.berkeley.edu/MetaphorHome.html>). Kövecses¹ is also working on a full listing (personal communication) but neither his nor Lakoff's list seems to be approaching completion at the time of writing. Indeed it is debatable whether a definitive list of conceptual metaphors is a realistic goal. This means that a linguistic metaphor identified in a corpus search may be a realisation of an undocumented conceptual metaphor.

Matching linguistic metaphors to conceptual metaphors is further complicated because a single lexeme sometimes realises several different conceptual metaphors. For instance, **heavy** is used as a linguistic metaphor realising

¹ Eotvos Lorand University, Budapest.

RESPONSIBILITIES ARE BURDENS in the first of the following citations and
SERIOUSNESS IS WEIGHT in the second.

Perhaps unwittingly, she was placing a **heavy** financial burden on the
shoulders of her followers.

It occurred to me that you can get very **heavy** about all sorts of things
in life, and at just those times when you should be on top form and
enjoying yourself hugely, all the fun goes out of life.

The next stage of the analysis is the examination of linguistic features of
conventional metaphors. The methodology used in each corpus study is described
in the chapter in which the study is discussed. For each study, an extract of 20
concordance citations is given in Appendix 2.

5.4 ADVANTAGES AND LIMITATIONS OF A CORPUS-BASED APPROACH TO METAPHOR

5.4.1 Advantages of using corpora to study metaphor

I have claimed that a computerized corpus can enable the researcher to detect patterns of usage more quickly than either the use of intuition or the analysis of individual texts. Corpus data can also, arguably, help to provide a less subjective analysis of language. Sinclair is one of several linguists who argue that the systematic study of large corpora yields information about language use that is not available to unaided intuition:

... the contrast exposed between the impressions of language detail noted by people, and the evidence compiled objectively from texts is huge and systematic. It leads one to suppose that human intuition about language is highly specific, and not at all a good guide to what actually happens when the same people actually use the language. (1991: 4)

Corpus-derived insights into language frequently strike the researcher as familiar once made, because they confirm information that is part of the competent speaker's linguistic knowledge. Because of this, these insights may be dismissed as trivial or obvious. Such linguistic knowledge can nonetheless be difficult to access using intuition alone, prior to corpus investigation, as many lexicographers will confirm (Summers 1996: 263).

Sinclair's finding that intuitions are contradicted by corpus evidence of language in use seems to apply as much to linguistic metaphor as to the areas of language which he has researched. For instance, one of the first observations that can be

made through studying the concordances for many words is the frequency of occurrence of their metaphorical senses. While non-metaphorical senses may be psychologically primary and historically prior, contemporary corpus data shows that metaphorical senses of some words are used as frequently as, or even more frequently than, non-metaphorical senses. This is unsurprising where a non-metaphorical sense is only detectable through studying etymology, as in Lakoff and Turner's example of **comprehend**, (which is derived from the Latin word for 'take hold' (physically) but which does not have this sense in English) (1989: 129). However, it may be less expected where the non-metaphorical sense is still current. For instance, a 400- citation extract of the concordance of **shreds** was analysed in order to determine the relative frequency of the literal and metaphorical uses of the plural noun (Study 16). 16 citations were discounted because they were either unclear or were proper names and 15 verbal uses were also disregarded. Of the remaining 369 citations, 207 were literal, and 162 were metaphorical. Typical citations of metaphorical **shreds** include:

So far she'd managed to cling to **the shreds of** her pride.
Her nerves are **in shreds**.

In the case of some structures the metaphorical uses of **shreds** are more frequent than the literal uses. There are 48 metaphorical citations of **shreds of** compared with 39 literal citations, with, for example, **shreds of patience** being a more frequent collocation than **shreds of cloth**. This suggests that the metaphorical use of **shreds** is more frequent than might have been predicted using unaided intuition.

This is not to suggest that metaphorical senses of all lexemes are always of this order of frequency relative to literal senses. For some lexemes metaphorical senses are a great deal more frequent than literal senses, while in other cases the reverse is true. However Study 16 does suggest that intuition is not a reliable guide to frequency, and that the frequency of use of metaphorical senses of many words might often be overlooked.

Writers working within the contemporary theory sometimes cite intuitively derived examples of linguistic metaphor which are rare or almost non-existent in the corpus. For instance, Yu cites the following realisations of ANGER IS HEAT (1995: 61).

- a. These are **inflammatory** remarks.
- b. She was doing a slow **burn**.
- c. He was **breathing fire**.
- d. Your insincere apology has added **fuel** to the **fire**.
- e. After the argument, Dave was **smoldering** for days.
- f. Boy, am I **burned up**.
- g. **Smoke** was pouring out of his ears.

The Bank of English concordances of the lexical items identified by Yu were examined in order to determine what proportion of citations of each are

realisations of ANGER IS FIRE (Study 17)¹. It emerged that while some of Yu's linguistic metaphors are frequent, others do not occur at all in the corpus.

Inflammatory and **smoldering** both occur regularly with the meanings they have in Yu's examples. Metaphorical **breath/e/ed/es/ing fire** occurs once in 1,000 citations of **fire**. **Fuel** collocates with **fire** as a linguistic metaphor three times in 10,000 citations of **fire**. The other three examples are either very rare or absent. Of 1,000 citations of **burn** there is none resembling that in example (f) (although the metaphorical use **burn out** = 'be exhausted' is well-established). There are no instances of **burned+up** with the meaning of 'be very angry'. **Smoke** appears within eight words either side of **ears** only twice in the entire American corpus, with a literal meaning in each case.

This is not to argue that ANGER IS FIRE is an unimportant conceptual metaphor. It has a number of lexicalisations not mentioned by Yu, several of which are more frequent than any of the above examples. For instance, **ignit/e/s/ing/ed** occurs 332 times in the American corpus, of which 228 citations are metaphorical. The following two examples are typical.

... the chaos in the country that could **ignite** into another Balkan war.
... terrible resentment will be **ignited**.

Ignite is also used to talk about feelings other than anger, as in the following citation.

... written by renowned children's authors who know how to communicate

¹ Because Yu is based in the United States of America and presumably works with American English, only the American corpus of the Bank of English was searched. This consists of four sub-corpora totalling some 64 million words.

with children and **ignite** their imaginations.

The collocation of **fan/ fans/ fanned/ fanning** with flames is also a conventional realisation of ANGER IS FIRE, as the following concordance extract demonstrates.

1. and the press for **fanning** the **flames**. <p> Wayne Osaki (Japanese-
 2. nly served to **fan** the movement's **flames**. And now the radical right
 3. rned like piles of kindling, the **flames fanned** by southwesterly
 4. rageous talk show hosts, **fan** the **flames** of fear. And we see more of
 5. instigating trouble, **fanning** the **flames** of that violence and itself
 6. trouble and disparity **fan** the **flames** of politically oriented
 7. of old quarrels and **fanning** the **flames** of still-smoking remembered
 8. tributed by their own **fanning** of **flames** of discontent. Yes! Let us
 9. ignited and **fanned** the creative **flames** of Millstream. Although Linc
 10. igh ground and **fanned** the rising **flames** of racism. Above all, I am

Corpus study 17 shows not only that Yu's examples are not the most frequent realisations of ANGER IS FIRE, but also that they are untypical semantically.

Corpus lexicalisations of ANGER IS FIRE tend to refer to the externally manifested reactions of large groups of people, while Yu's examples are focussed almost entirely on the feelings of individuals.

Trained intuition is clearly indispensable for identifying conceptual metaphors and for suggesting likely lexicalisations of these. However, there is a discrepancy between the expressions which a researcher may produce from intuition as typical lexicalisations and the expressions which are most frequently used in the corpus. Given that intuition and corpus findings seem to diverge when nothing more than the existence and frequency of linguistic metaphors is at issue, it seems unlikely that intuition would adequately predict more delicate features of metaphorical expressions. Because of this, corpus data is invaluable in making statements about issues such as the existence and frequency of literal and metaphorical senses,

paradigmatic relations between senses, and their collocational and syntactic behaviour.

5.4.2 Limitations of a corpus-based approach

While a corpus-based approach to the study of metaphor shows up syntactic, collocational and semantic patterns which are difficult to access in any other way, it has limitations, and has received some criticism. Three possible limitations are mentioned here¹:

- the limited usefulness of corpora in the study of innovative metaphor;
- the necessity of working bottom-up rather than top-down to develop models of linguistic patterning;
- the issue of representativeness.

Firstly, concordance data are unlikely to be of great interest to researchers who are interested in innovative metaphors. Because corpus linguistics is based on huge samples of language from which typical and frequent patterns are pulled out, corpus studies help to provide ways of determining what is usual, not what is inventive. However one application of corpus data to the study of literary effect has been described by Louw (1993), who discusses unusual collocations in literature, using concordance data to demonstrate ways in which some collocations found in literature break typical patterns found in the corpus and so create particular stylistic effects. On the same principle, innovative metaphors could be compared and contrasted with typical patterns found in a corpus.

¹ Much of this section is based on arguments in Deignan (in press).

A second drawback to the use of corpora has been mentioned above; the computer can only search for word forms, not metaphors. To find instances of metaphorical use, the researcher has to hand-search concordance lines.

A third problem concerns the representativeness of the data used. A common criticism of corpus-based reference texts and studies is that the corpus that they are based on is not truly representative of the language. For example, Summers criticises the Bank of English for its ‘dependence on news media source material’ (1996:266). It is certainly true that newspapers are one of the most readily available sources of machine-readable texts, and predominate in many modern corpora. However, in defence of these corpora it could be argued that journalism probably represents a large proportion of the reading of many users of language, and so deserves to be well-represented in a large general corpus. Further, by including a number of different news titles, the corpus is probably more balanced in its journalistic intake than the average reader of newspapers, who may only read one or two titles.

This raises the question ‘a corpus representative of what?’, or ‘whose corpus?’. In the late twentieth century, different people’s daily lives span a wide range of specialised occupations and activities, and as a result, each person’s daily diet of language will be different. For instance, some language users spend much of their time engaged in spoken interaction with children, while other people’s language input might consist of a great deal of specialist written material. Consequently,

vocabulary and structures encountered frequently will vary a good deal from person to person. Because of this variation in language experience, the composition of any corpus will be at odds with most individuals' personal experience of language; and it is to be hoped that a well-balanced corpus will be superior to any individual's 'personal corpus' in its range and balance. It should be acknowledged however that many corpora are probably genuinely under-representative of spoken texts; these are difficult to collect because of many people's natural reluctance to allow their private conversations to be recorded, and such data are also time-consuming, and therefore expensive, to key into a database.

Knowles answers the common criticism that corpus linguistics relies on unrepresentative samples of texts by pointing out, somewhat wryly, that although current corpora may be limited, they at least provide authentic evidence:

[Another] objection raised against the corpus approach is that corpus linguists collect a restricted sample of an arbitrary subset of the language and then pontificate about the language as a whole. If only they could be persuaded to invent their own data, then they would not have any such problem. (1996:52)

Statements made about language by researchers who do not consult external, naturally-occurring data must presumably be based on their own experience of language use at some level. The 'personal corpus' of a researcher might be highly skewed in comparison with the language experience of the general population. Furthermore, it seems that personal, internal corpora are not easily and reliably accessible in the way that a computerised corpus is. The observations made by

consulting a personal corpus are not replicable or falsifiable.

Researchers can, in any case, allow for the possibility that a corpus in its entirety may be misrepresentative of the language as a whole by examining and comparing sections of it. The composition of most modern corpora, including the Bank of English, allows users to examine sub-corpora and to compare frequencies of different usages in different genres. Information about the frequency of lexical items (presented in the form of average number of citations per million words) is automatically broken down by the different sub-corpora, enabling the researcher to see instantly if a use is over- or under-represented in, say, news media in comparison to, say, the spoken or fiction corpora.

5.5 SUMMARY

In this chapter I have outlined the tools and methodology which I use in the following chapters. I have discussed the advantages and limitations of these tools. I have claimed that they help the researcher to arrive at an analysis greatly more accurate than that possible using unaided intuition. While acknowledging that they also have some shortcomings, I have tried to argue that the problem of representativeness has been overstated.

6. FEATURES OF LINGUISTIC METAPHOR: PARADIGMATIC RELATIONS

6.1 INTRODUCTION

In the first chapter of this thesis, I outlined some central tenets of the contemporary view of metaphor. One of these is the notion that concepts are mapped at the level of thought from a source domain to a target domain, and that through this process the structure of the source domain shapes the target domain. It is held that one of the functions of metaphor is to provide a structure for target domains which are difficult to conceptualise in their own terms. Linguistic metaphors are the realisation of these conceptual metaphorical mappings, and each such mapping will be lexicalised by at least several and possibly many linguistic metaphors.

It follows from the above that a number of linguistic expressions which are used to talk about the source domain will also be used to talk about the target domain. These are polysemous lexemes, having a literal sense in the source domain and a metaphorical sense in the target domain. The mapping of the source domain structure onto the target domain has implications for sense relations between these lexemes. Specifically, it can be taken to imply that the relations of antonymy, synonymy and hyponymy which are observed between their literal, source domain senses will be transferred to the target domain.

In this chapter I use corpus data to examine the senses of a set of related lexemes from the same source domain, and I attempt to determine whether their metaphorical senses demonstrate the same lexical relations as their literal senses. This would be predicted by the model outlined above. I begin the chapter by looking in more detail at specific claims about lexical relations made in recent metaphor studies. I contrast these with claims made about polysemy in writing on lexical semantics. I then describe a number of corpus studies.

6.2 PARADIGMATIC RELATIONS, METAPHORICAL MAPPING AND POLYSEMY

6.2.1 Metaphorical mapping and paradigmatic relations

It seems to be implicit in some recent work by writers within the contemporary theory of metaphor that source domain sense relations are mapped onto the target domain. In the first part of this section, I attempt to show how I have drawn this conclusion from their work.

Lakoff has developed a hypothesis termed variously ‘The Invariance Principle’ or ‘The Invariance Hypothesis’, which states that

Metaphorical mappings preserve the cognitive topology [...] of the source domain, in a way consistent with the inherent structure of the target domain. (1993: 215)

He goes on to explain that the Invariance Hypothesis states that those elements of the source domain which are mapped onto the target domain will be mapped in a

way that preserves the overall coherence of the metaphor. This means that the conceptual metaphor LIFE IS A JOURNEY should map physical journeys onto human lifetimes so that ‘sources will be mapped onto sources, goals onto goals, trajectories onto trajectories and so on’ (ibid.). An examination of linguistic realisations of the metaphor suggests this is the case: literal crossroads and turning points are mapped onto important decisions, and destinations are mapped onto goals in life (Turner 1990). According to Lakoff’s argument, no elements of the source domain will be mapped in a way that is inconsistent with the other elements mapped; for instance, literal destinations will not be mapped onto birth.

The coherence of a metaphorical mapping may be constrained by the nature of the target domain: some elements of the source domain may have no observable counterparts in the target domain, and so will not form part of the mapping. Another threat to the coherence of metaphorical mapping is where apparent inconsistencies within a mapping can be found. These are explained by the existence of two different conceptual metaphors. For instance, expressions such as ‘We’re approaching the end of the year...’ and ‘The time will come when...’ seem to suggest an inconsistent mapping of movement onto time. This is explained by the first expression being a realisation of TIME IS STATIONARY AND WE MOVE THROUGH IT, and the second a realisation of a different conceptual metaphor, TIME IS A MOVING OBJECT. Lakoff and Johnson claim that each of the two metaphorical mappings is internally coherent (1980: 41- 45).

Although it does not seem to be stated explicitly, it would seem that Lakoff and

his followers find that the distribution and meanings of linguistic metaphors are consistent with the Invariance Hypothesis. Linguistic metaphors are by far the most frequently cited evidence for the contemporary theory. Lakoff states that the first of three kinds of evidence which persuaded him of the centrality of metaphor to thought was ‘systematicity in the linguistic correspondences’ of the realisations of LOVE IS A JOURNEY (1990: 50). Presumably the Invariance Hypothesis would be reconsidered if a substantial amount of linguistic evidence was found to be incompatible with it.

To be consistent with the hypothesis, semantic groups of linguistic metaphors should demonstrate the same connections in the target domain as they hold in the source domain. In the case of LIFE IS A JOURNEY, this would imply equivalence between metaphorical senses of words for destinations, and opposition between metaphorical senses of words describing beginnings and endings of journeys. In the case of EMOTIONS ARE TEMPERATURES, the hypothesis should predict that relations such as opposition which hold between literal senses of temperature terms are maintained when the terms are used in the target domain. It would also seem that the relationship between general and specific terms, hyponymy, should be preserved in metaphorical mapping. The Invariance Hypothesis has other important implications, but as these concern cognition rather than language use they are not explored here.

While the claim that paradigmatic relations between metaphorical senses are consistent with relations between their literal counterparts does not seem to have

been made explicitly in the work of the most well-known cognitive linguists Lakoff, Johnson and Gibbs, at least two writers from related disciplines tackle the point directly. Lehrer, writing on polysemy, claims that

If there is a set of words that have semantic relationships in a semantic field (where relationships are described in terms of synonymy, antonymy, hyponymy etc) and if one or more items pattern in another semantic field, then the other items in the first field are available for extension to the second semantic field. Perceived similarity is not necessary. (1978: 96)

Kittay, who works within a philosophical tradition, argues a very similar point:

Metaphorical transfers of meaning are transfers from the field of the vehicle to the field of the topic of the relations of affinity and opposition that the vehicle term(s) bears to other terms in its field. More precisely, in metaphor what is transferred are the relations which pertain within one semantic field to a second, distinct content domain. (1987: 36)

She exemplifies her point with reference to the lexical set {**hot**, **warm**, **cool**, **cold**}, arguing that because **hot** can be used to describe the good performance of a basketball player, other members of the temperature set can be transferred, the lexical relations existing in the source domain being preserved. This would mean that **cold** can be used to describe a poor performance and **warm** to describe a reasonably good one.

Kittay looks at how this potential for metaphorical extension of meaning is exploited in literature, and shows how writers use known metaphorical mappings to create meanings and inferences which are new and yet comprehensible. For instance, she shows how Wordsworth develops the metaphor VENICE IS A

WOMAN¹ to create innovative metaphorical meanings. In Wordsworth's poem, the source domain of a woman's life is mapped onto the target domain of the creation, glory and decline of the city of Venice. Early in the poem, **birth** is used as a conventional metaphor to describe the creation of the city. Items from the same source domain, including **child**, **maiden** and **seduced**, are then also used metaphorically, creating novel meanings. Their new meanings are understood analogously, through their semantic relationship to **birth** in the source domain. Novel inferences created by the mapping include the 'appropriateness of a tribute'; Kittay points out that the metaphor implies that just as 'we mourn and pay tribute to a great personage at her death, so we must do with Venice' (1987: 263).

Neither Lehrer nor Kittay claims that all the potential metaphorical senses in a semantic field are actually found in language in use. Lehrer writes that items from a source semantic field 'are available' for use in another semantic field (*ibid.*), but not that they are used in every case. Kittay suggests potential for the metaphorical extension of sense relations and illustrates this with innovative linguistic metaphors, but she does not claim to describe conventional metaphorical use.

If the metaphorical transference of sense relations is confined to literary language such as that of Kittay's examples, it is of peripheral interest to the description of conventional language. If on the other hand, the metaphorical transference of sense relations is evidenced in frequent conventional linguistic metaphors, then

¹ 'On the Extinction of the Venetian Republic' by Wordsworth. Reproduced in Kittay (1987: 259).

the notion of metaphorical mapping, and the Invariance Hypothesis in particular, would form a powerful model for the description of these metaphors.

6.2.2 Polysemy and paradigmatic relations

Some research into polysemy and paradigmatic relations appears to contradict the implications of the Invariance Hypothesis as outlined above. In Chapter Three (3.5.4), it was noted that one test for polysemy depends on the notion that distinct senses of a lexeme contract different paradigmatic relations. For instance, Robins notes that two senses of **right** can be distinguished in this way, one being antonymous with **left** and the other with **wrong** (1987). This observation is backed up by corpus data. For example, the ‘temperature’ sense of **hot** is used antonymously with **cold**, while the sense which is used to describe highly spiced food is used antonymously with **mild**.

The tea came, **hot** and sweet...

It's not only sales of **cold** beer and ice-cream that rocket in the heat.

Avoid **hot** curries and too much spicy food.

... a pinch of **mild** chilli powder.

Similarly, corpus citations show that this sense of **mild** can be split from a related sense whose antonym is **severe**.

I am just recovering from a **mild** heart attack.

Some 6,000 people a year in Britain suffer **severe** heart failure, he said.

While the above examples do not consist of a conventional metaphor and its literal counterpart, corpus citations show that the argument can be extended to

such pairs of senses; some pairs of a literal sense and related conventional metaphor have different antonyms. This is demonstrated by a corpus study of 1000 citations of **sighted** (Study 18). The concordance shows that five compound forms, **short-sighted**, **far-sighted**, **clear-sighted**, **near-sighted** and **long-sighted**, which account for 541 of the citations, are used literally and metaphorically to varying degrees. **Short-sighted** occurs 311 times, of which 71 citations are literal and 240 conventionally metaphorical. The following citations are typical.

The hamster-like impression persists as he blinks, shy and **short-sighted**, in the sunlight.

Taking money from nursery education is **short-sighted** madness.

The antonym of the literal sense of **short-sighted** is **long-sighted**. There are eight citations of this sense in the corpus, including the following.

They were probably made for a **long-sighted** person, perhaps to help with reading in old age.

Conventional metaphorical uses of **long-sighted** occur, but as a lower proportion of the total concordance than is the case for **short-sighted**. There are 14 citations of the lexeme, of which six, including the following, are metaphorical.

... the **long-sighted** view for the economic viability and stabilisation of the land.

There are 151 citations of **far-sighted** in the sample, all of which have the meaning exemplified in the following citation.

If it wasn't for a small group of dedicated people and a **far-sighted** local council, all I would have seen would have been a housing estate or playing fields.

The two other compounds in the sample are **clear-sighted** and **near-sighted**. Of the 20 citations of **near-sighted**, all are literal, while the 45 citations of **clear-sighted** are all instances of conventional metaphor, such as the following.

It was a cynical view but a **clear-sighted** one.

Clear-sighted does not appear to have an antonym formed through this mapping.

The above study suggests that **short-sighted** typically has two different antonyms, depending on whether it is used in the source domain of (literal) vision, or the target domain of thought. While the literal antonym **long-sighted** is occasionally found in the target domain, in the overwhelming majority of metaphorical citations **far-sighted** is used for this meaning. This is a case of antonyms distinguishing literal from conventional metaphorical senses of a lexeme. The study further shows that the mapping is not constrained by the structure of the target domain alone, as a strong version of the Invariance Hypothesis would suggest. The nature of the target domain of thought does not explain why an item such as **dull-sighted** should not be formed in antonymy to **clear-sighted**, and yet there is no corpus evidence of such items.

The discussion and exemplification in this and the previous section are inconclusive. On the one hand, it seems that in many cases paradigmatic relations are common to literal and metaphorical senses of lexemes. There seems to be an

equally convincing body of evidence to show that this is not the case for some lexemes. In the following sections I describe and discuss more detailed corpus investigations into the question of paradigmatic relations and metaphorical mapping.

6.3 CORPUS STUDIES

6.3.1 Using corpus data to examine paradigmatic relations

In 6.3 I report four corpus studies in which I examined the four central temperature terms **hot**, **warm**, **cool** and **cold** (Studies 19, 20, 21 and 22). I used a 1000-citation sample of the concordance of each of the items. In further studies I examined concordances of their comparative and superlative forms, and of verbal inflections where applicable. These did not yield any significant patterns not found in the studies of the base forms, and so they are not reported here. I do not discuss citations of verb and noun uses which appeared in the concordances of the base forms, as these did not reveal any significantly different patterns of mapping from the adjective uses which make up the bulk of the concordances.

I grouped citations by sense, and then separated literal from metaphorical senses, following the model of meaning division and metaphor outlined in Chapters Three and Four. For this study I separated fixed collocations and excluded them from the following discussion, even where they seemed to be metaphorical in origin. I did this because it seemed likely that they would complicate the investigation of paradigmatic relations. For instance, **hot** in the expression **be in hot pursuit** was

excluded from discussion, even though it may be semantically related to more freely combining metaphorical uses of **hot**. This is because it does not seem central to the question under discussion here that there is no antonymous use of **cold** in **in cold pursuit*, and that observation seems likely to confuse the examination of freely-combining uses of **hot** and **cold**. Some aspects of syntagmatic patterning across literal and metaphorical senses are discussed in the following chapter. The tables in the following four sections show the major sense divisions found. The implications of these and related corpus studies are discussed in 6.4.

6.3.2

Table 6.1 Senses of 'hot'

Sense	Example	Number of citations
Non-metaphorical		
1. temperature used to describe weather, cooking	He was hot in his raincoat.	660
2. spicy, of food	... hot and spicy food.	16
Conventional metaphors		
3. topical, good of current concern; currently popular; good; competitive; brand new	It has also been the hot topic for radio talk shows across the state.	130
4. erotic	The couple are tipped to steam up the screen with red- hot love scenes.	17
5. angry	Tempers are hot ...	12
6. negative illegally obtained; receiving unwelcome attention	... hot car stereos	8
Other		
7. fixed expressions blow hot and cold; hot pursuit/ hot on the heels; hot shot; hot spot; hot air; in hot water; hot blood; while the iron's hot; hot under the collar; hot pants; hot line; hot seat		105
8. other ambiguous, names		52

6.3.3

Table 6.2 Senses of 'cold'

Sense	Example	Number of citations
Non-metaphorical		
1. temperature weather, food, etc	We were in the mountains where it was cold .	491
2. temperature, nominal weather	Kate shivered but not from the cold .	92
3. temperature, nominal people suffering cold	...a lamentable tax on the old and cold .	1
4. illness, nominal	...catching a cold .	62
Conventional metaphor		
6. without friendly emotion	...a bright, cold stare.	48
7. without sexual feelings	..sexually she's rather cold .	1
8. without losing control	There was cold anger in his voice.	9
9. hostile	As we have seen in Scandinavia this week, it is a cold world outside the ERM	7
10 fear	... cold chills of fear.	7
11. uninteresting, lacking emotion	Studio recordings are often cold .	5
12. realistic, unbiased by emotion	...take a hard, cold look.	4
13. unprepared	I came cold to the interview	4
14. quality of colour or light	... making the water shiver with cold , gold light.	9
Other		
15. fixed expressions: cold war; cold fusion; cold blood; cold fish; cold feet; cold shoulder; cold turkey; come in from the cold; leave out in the cold; leave somebody cold; throw cold water on; cold light of day; blow hot and cold; be out cold		216
8. other : ambiguous; names		44

6.3.4

Table 6.3 Senses of 'warm'

Sense	Example	Number of citations
Non-metaphorical		
1. temperature: weather, food and drink, body, clothes	... warm evenings.	589
2. temperature, verb	... blankets to warm those sleeping on the streets.	42
3. temperature, noun	Bring them indoors into the warm .	2
4. warm up, verb (of people and machines)	Make sure you warm up.	26
5. warm up, noun	... his pre-match warm-up .	58
Conventional metaphor		
6. friendly	Visitors are assured of a warm welcome.	157
7. contentment	<His> cosy reception in America would have spread a warm glow back home.	14
8. warm to, verb	Fans began to warm to both the event and the sport.	6
9. senses quality of colour and light, sound, taste, smell	Her voice is a warm soprano. ...a warm oriental fragrance.	58
Other		
10. fixed expressions warm the cockles; warm the heart; keep the seat warm; warm favourite		9
11. other names, ambiguous, hapaxes		39

6.3.5

Table 6.4 Senses of 'cool'

Sense	Example	Number of citations
Non-metaphorical		
1. temperature: weather, food and drink, body	...a cool place.	276
2. temperature, verb	Allow to cool in the tin for ten minutes.	167
3. temperature, noun	Lying down in the cool , she felt quite recovered.	2
Conventional metaphors		
4. calm	...his cool assurance.	134
5. unfriendly	...a cool reception.	32
6. fashionable, connoting approval	Eugene's hair always looks really cool .	159
7. verb become calm	... unable to cool the selling panic in both stocks and futures.	32
8. a large amount of money	The 30-second slot earned Paula a cool £160,000.	22
9. quality of colour, taste, or scent	...a cool invigorating fragrance.	17
Other		
10. fixed expressions keep one's cool; lose one's cool; play it cool		34
11. other names, ambiguous		125

6.4 PARADIGMATIC RELATIONS FOUND IN CORPUS STUDIES

6.4.1 The relations examined

I begin by examining the semantic relationship which is found between lexical items which are adjacent on a graded scale. I term this relationship *graded synonymy*, and illustrate it with a discussion of the pairs **hot** and **warm**, and **cool** and **cold**. The literal senses of each pair of these items can be used interchangeably in some contexts, and each pair shares central components of meaning. They can also be used contrastively, as in the invented utterance ‘It wasn’t warm so much as hot’ (following Lyons 1977: 289). However this contrastive use does not alter the semantic value of each item; it merely emphasises the fact that each occupies a different, albeit adjacent position on the temperature scale.

I also discuss some examples of *loose synonymy*. This term describes the relationship between pairs such as **cold** and **icy**, which have clearly distinct semantic values, but which can be substituted for each other in many contexts without significantly affecting meaning. In some cases of loose synonymy, lexical items are very close in denotational meaning but differ in their expressive value (Ullmann 1962, Palmer 1976, Cruse 1986). A few such pairs are discussed in this chapter, but the wider question of the transfer of evaluative meaning is deferred until Chapter Nine, where the role of metaphor in the encoding of affective meaning is considered. I do not attempt to include any examples of absolute synonymy, as it has often been observed that this is a very rare or non-existent

phenomenon (Ullmann 1951, Lyons 1981).

I also discuss metaphor and the relations of antonymy and hyponymy. My principal examples of antonymy are the two pairs of gradable opposites in the scale {**hot warm cool cold**}. I then examine the metaphorical transfer of the relationship of hyponymy, or inclusion, using the examples of metaphors transferred from the source domains of illness and machinery.

6.4.2 Graded synonymy

When used with their literal senses, **hot** and **warm** collocate with items from the same group of semantic fields, the most important fields in terms of frequency being the weather, body temperature and food and drink. As expected, corpus citations show that literal **hot** and **warm** occupy adjacent places along a scale of the four central lexical items used to talk about temperature. A completely systematic mapping of the domain of temperature onto the domain of emotion would imply that metaphorical **hot** should describe feelings similar but more intense than those described by metaphorical **warm**. This is not the case; although both items have metaphorical senses which are used to talk about feelings, the senses do not seem to belong in adjacent positions on a single scale. **Hot** is used to talk about sexual desire or about anger, while **warm** is used to talk about friendliness. In their evaluative orientation, the senses are loosely opposed; **hot** when used to describe anger often implies a negative evaluation, while the ‘friendly’ sense of **warm** seems to be invariably positive in evaluation. Determining the affective value of a lexical item is inevitably dependent on

intuition to some extent, but the co-text can provide some clues. This is the case in the following citations of the ‘anger’ sense of **hot** and the ‘friendly’ sense of **warm**.

He has little patience with the child and, while he’s never been physically abusive, Joanne worries that his **hot** temper will lead to violence.

Where her own parents were **warm** and friendly and did their utmost to make strangers feel welcome, his were haughty and distant.

In the first citation, the lexical items **worries** and **violence**, items which carry negative affective meaning in most or all contexts, are associated with feelings about and consequences of a **hot** temper. This character trait is also contrasted with **patience**, a lexeme which usually evaluates positively. In the second citation, **warm** is equated with the positive **friendly** and contrasted with the negative **haughty** and **distant**.

Intuition might suggest that **warm** may sometimes be used to describe feelings of anger by analogy with **hot**, but this sense of **warm** is not represented in the sample of 1000 citations studied, which suggests that it is relatively rare. It seems that metaphorical heat is generally bad when realised by **hot**, but good when realised by **warm**. This does not reflect the evaluative meanings of the literal senses of the items. While literal **warm** often positively evaluates, it can be neutral or negative; **hot** often positively evaluates when used of food for example, but does not appear to have a significant evaluative pattern otherwise.

The other two central temperature terms, **cool** and **cold**, also have a relationship of

graded synonymy when used with their literal senses. Each has a number of metaphorical senses, several of which appear to be related in the same way as the literal senses. **Cool** is used to talk about a lack of friendly feelings in citations such as the following.

She deals with people all day, in her **cool**, distancing way.
The audience is likely to give the president a **cool** reception.

Cold has a sense which seems to denote similar but more intense feelings or behaviour.

People who say you're so **cold** and reserved don't really know you.
The next time you call him, you'll get a **cold** reception. You'll lose him as a friend.

Both **cold** and **cool** also have a conventional metaphorical sense denoting control over emotions. The relationship between these senses seems to be one of graded synonymy. As in their literal senses, the items have contrasting evaluative orientations, **cool** expressing approval and **cold** negatively evaluating, as the following citations of literal and metaphorical senses of each lexeme show.

Comfortable and **cool**, fabrics such as cotton sun dresses or T-shirts are perfect for daytime wear.

You don't go anywhere; it's too miserable and **cold**.

The timing of his tackles and his **cool** assurance were first-class.

He means every word he says. He is **cold** and calculating.

Other metaphorical senses of **cold** and **cool** seem to be unrelated. **Cold** is used to talk about fear in citations such as the following.

I shivered as **cold** chills of fear crept over me.

There is no evidence in the sample of **cool** that it is used with a similar meaning.

Cool is used to denote approval in citations such as the following.

There will be days when things aren't **cool**, but if you look back over your life you'll realise that problems do eventually get worked out.

There is no corpus evidence for a similar sense of **cold**.

The concordance evidence discussed here suggests that a few of the metaphorical senses of the four central temperature adjectives are related to each other by graded synonymy, echoing a relationship which exists in the source domain. However a number of other metaphorical senses of these items seem to exist independently.

6.4.3 Loose synonymy

Besides the central set {**hot warm cool cold**}, there are several other lexical items which are used to talk literally about temperature and which have metaphorical senses. Each of these has a relationship of loose synonymy with one of the four central terms. They generally seem to gain their target domain meaning through the mapping of their source domain relationship with a central term. For example, in the source domain, both **lukewarm** and **tepid** describe a temperature slightly below that described by **warm**, and are used in a way which suggests loose

synonymy with **warm**. Both items seem to evaluate negatively in some, but not all citations. Their metaphorical senses parallel their source domain relationship with literal **warm**, the only difference being that metaphorical **lukewarm** and **tepid** are invariably derogatory. The following citations illustrate their source and target domain senses.

You should remember that water at the right temperature for you may be too hot for her; so keep it **lukewarm**.

Like artichoke, beetroot is best served **tepid**.

They showed at best a **lukewarm** attitude and at worst a positive hostility.

The reception was **tepid** to say the least.

Similarly, **icy** and **chilly** have metaphorical senses denoting unfriendliness which are loosely synonymous with a metaphorical sense of **cold**, echoing the loose synonymy between the literal senses of these items.

...enduring **icy** silences.

...his **chilly** relationship with Stephens.

Although these linguistic metaphors seem to be motivated by the relationships holding between literal senses, they are not predictable. For instance, there is no corpus evidence that **chilly** is conventionally used with the ‘fear’ and ‘control’ senses that **cold** has. However, while **chilly** is not used to denote feelings of fear, **chilling** is used to describe something which inspires fear or horror, as in the following citation.

It gives a **chilling** account of how the plane disintegrated within three seconds of the explosion.

Adjectives such as **lukewarm** and **icy**, which are less frequent in the corpus, less polysemous and probably less psychologically central than the set {**hot warm cool cold**}, seem to derive their metaphorical senses by analogy with paradigmatic relations in the source domain. Each of the less central items is related by loose synonymy to one of the four central items in the source domain, and this relationship is echoed in the target domain. However, the mappings of these non-central temperature items are partial; only a few of the large number of metaphorical senses which could potentially be created are used conventionally in the corpus.

6.4.4 Gradable antonymy

The most frequent senses of both **hot** and **cold** are literal, describing temperature. The collocational patterns of the two items are similar; both are used to talk about weather, food and drink, and people's sensations of being hot or cold. It seems uncontroversial to state that there is a relationship of *gradable antonymy* (Lyons 1977) between these literal senses. **Hot** and **cold** also have several other literal senses which are not used antonymously with each other, including **hot** meaning 'spicy' and several nominal senses of **cold**. These are infrequent in comparison with the 'temperature' senses.

Occasionally there seems to be antonymy between metaphorical **hot** and **cold**. Just as **hot** is used to talk about sexual desire, a conventionally metaphorical sense of **cold** is used to talk about lack of sexual feelings. The following citations show

this apparent opposition.

The couple are tipped to steam up the screen with red-**hot** love scenes.

What I adore about her is the fact that sexually she's rather **cold** and remote.

However, this is not a completely clear-cut opposition, as the collocational profiles of the two senses are different. While **hot** used in a sexual sense collocates principally with words used to refer to texts or pictures, such as **film** and **photo**, **cold** collocates with words used to refer to people. There is no evidence in the sample studied that this sense of **cold** collocates with words for texts or pictures. This means that although these uses of **hot** and **cold** are loosely opposed in terms of their semantic content, they are not used to describe the same entities and therefore are not truly antonymous by the criteria used by many writers (for example, research cited in Justeson and Katz 1992).

Cold has a metaphorical sense which is used to describe anger and other strong emotions, implying control.

Stephen had noticed the expression of **cold** hatred on Fox's white, closed face.

There was **cold** anger in his voice, a note of violence.

The uses discussed above suggest that metaphorical **cold** and **hot** do not maintain their literal antonymy in the strict sense of having opposing meanings but being used with the same group of collocates. They do however seem to express notions that are opposed in very loose terms. **Hot** implies strong, possibly uncontrolled

feelings while **cold** implies either lack of feelings, or the intellectual control of feelings. It seems possible that **hot** could be used antonymously with the two metaphorical senses of **cold** discussed above, although corpus studies do not give evidence that this potential is realised conventionally.

A further metaphorical sense of **hot** describes topics or people who are of current interest or are considered good. A common feature of these citations seems to be intensity of interest in the person or topic described.

Now the quest for antibacterial drugs and therapies has become **hot** science.

...in a future of **hot** competition for premium programming.

Hot is also used to talk about stolen goods which are being searched for by the police.

<He> has signed more T-shirts than you've handled **hot** car stereos.

There is no evidence that **cold** is used as a conventional antonym to either of these uses, although it is conceivable that a speaker might exploit the established antonymy of **hot/ cold** in order to use **cold** innovatively with either of these meanings.

Cold has several other metaphorical senses which are unrelated to any sense of **hot**; for instance, it is used as a derogatory term for artistic works which are judged to be controlled intellectually but lacking in emotional depth, as in the

following citation.

Even when the songs have the personal directness of 'This is why' and 'Nancy', they are over-laboured and **cold**.

Facts and ways of thinking about them that are not influenced by emotion may be described as **cold**.

It's time for investors to take a hard, **cold** look at the stocks they own and consider some careful pruning.

There is no evidence in the concordance of **hot** that it is used as an antonym of either of these uses of **cold**, or for the use of metaphorical **hot** to describe fear.

Lack of friendly feelings is also expressed metaphorically as **cold**:

...giving me a bright, **cold** stare.

Corpus evidence suggests that **warm**, rather than **hot** is used as the antonym of this sense.

While it may well be true that the relationship of antonymy holding between the literal senses of **hot** and **cold** can be exploited metaphorically in the way that Kittay suggests (1987, discussed above), this seems to have remained at the level of innovative metaphor in most, if not all, cases. The corpus evidence examined here does not yield any examples of metaphorical senses of **hot** and **cold** which are antonyms in the strictest sense.

Like **hot** and **cold**, **warm** and **cool** are generally considered to be antonyms in their literal senses, and corpus citations show that they are used with the same collocates, principally words referring to places and weather, food and drink, people, and clothing. They also have a relationship of antonymy in one pair of metaphorical senses. The most frequent metaphorical sense of **warm** is to describe friendly feelings. **Cool** is an antonym of this sense, having a contrasting meaning, and being used with the same sets of collocates. However, other senses of **cool** do not maintain antonymy. For instance, the most frequent metaphorical sense of adjectival **cool** is to describe feelings which are calm and controlled.

The timing of his tackles and his **cool** assurance were first class.

This citation raises two points of interest: firstly, that there is no corresponding antonymous sense of **warm**. Secondly, **cool** here seems to be used with positive evaluation, in contrast to one of its other metaphorical senses, of ‘unfriendly’. In other citations of this sense, **cool** collocates with **ingenuous** and **common sense** in structures which suggest approval. When **cool** is used in antonymy with **warm** to denote lack of friendliness, it collocates with items such as **distancing** and **lonely**, suggesting a negative orientation.

A further sense of **cool** which is unrelated to any sense of **warm** is used to express approval. The antonym of this sense is **uncool**, an item formed by a regular morphological device rather than by metaphorical mapping. The following two citations illustrate these senses.

I couldn't believe that the kids didn't think dancing and music were **cool**.

That's something I've never admitted to because it was always so **uncool** to be a chess player.

Thus it seems that relationships of antonymy between metaphorical senses of **hot** and **cold** or **warm** and **cool** are relatively rare. The relationship of gradable antonymy holding between the literal senses of the two pairs of temperature terms is not always mapped onto the target domain of emotions. Further, the range of metaphorical senses of items such as **cool** suggests that the notion of a single metaphorical mapping is an over-simplification, a suggestion which is discussed in more detail in the conclusion to this chapter.

Similar inconsistencies in mapping can be found when other well-known pairs of antonyms are investigated. Justeson and Katz isolated a list of antonyms for study on the grounds of historical importance in psycholinguistic research, and frequency (1992). Their list included **hot/ cold**, and also **deep/ shallow**, **clean/ dirty** and **sour/ sweet**. Corpus citations show that each of these pairs of lexemes has at least one pair of metaphorical senses which are antonymous (Study 23). However, each member of each pair also has at least one metaphorical sense existing independently of its literal antonym. The following table exemplifies this point.

Table 6.5 Metaphorical senses of literal antonyms

Lexeme	Citations of antonymous metaphorical	Citations of non-antonymous metaphorical
--------	--------------------------------------	--

	senses	senses
deep	Sometimes we need to ask deep questions, ones that no one else has dared to voice.	She must also overcome the deep prejudice against women which exists on racing's workshop floor.
shallow	Won't she become bored with the shallow questions and glib answers?	... her lavish but shallow lifestyle.
clean	I was glad we were playing clean cricket.	He left power with a clean conscience.
dirty	Terry is not a dirty player.	'Second-hand' is no longer a dirty word.
sour	... our new art teacher, a Mr. Brine, a sour , quiet man who growled at the whole class.	He accused Dr FitzGerald of being sour because he never made it.
sweet	Many of these killers are frequently glib and superficially charming, helpful, sweet and kind.	Perhaps in a couple of years she too would have a sweet little grand-daughter like that.

If relatively fixed collocations such as **come clean**, **dirty tricks** and **turn sour** had not been excluded from this study but had been allowed as potential instances of metaphorical senses, the number of lexical items whose antonym is not mapped onto the same target domain would become still more significant.

6.4.5 Hyponymy

Hyponymy is one of the relations specifically mentioned by Lehrer in her discussion of sense relations and polysemy (1978, cited in 6.2.1 above). In this section I use concordance data in order to consider to what extent the hyponymous relations of two source domains are transferred to target domains by metaphorical mapping. I examine lexical items from the source domains of tools and disease.

For the first of the two corpus studies (Study 24), I analysed 1000 citations from the concordance of **tool** and isolated its metaphorical senses. I then used two thesauruses to identify hyponyms of **tool** (Chapman 1996, Kirkpatrick 1997). I narrowed these down to a short list of items which were both frequent in the Bank of English and salient. Salience was determined by looking at the items used to exemplify **tool** in dictionary definitions and examples (Crowther *et al.* 1995, Sinclair *et al.* 1995), and through a list of tools in lexicons included in dictionaries (Summers *et al.* 1987, Summers *et al.* 1995). The concordances of this list of hyponyms were examined for evidence of metaphorical senses. A similar process was used to examine lexis from the semantic field of disease (Study 25).

Studies of superordinate terms in each field showed that these have metaphorical senses. Of the 1000 citations of **tool**, 472 are metaphorical. These can be split into two related senses. The most frequent sense is used ‘to refer to something such as a plan or a system that people use deliberately for a particular purpose’ (Deignan 1995: 78). The following citation exemplifies this.

Stress is now a management **tool** to get rid of people who are not wanted.

The related sense, which is around ten times less frequent than the above, is used to refer to people or things which are in the power of another person or organisation and are being used for undesirable purposes, as in the following citation.

In this country the police are essentially a **tool** of repression.

For the second study it is less easy to identify a single superordinate item. 1000-citation concordance extracts of the items **disease**, **sickness**, **ailment** and **illness** were studied. **Illness** and **ailment** do not have conventional metaphorical senses, while **sickness** and **disease** are both used metaphorically to talk about problems in a society or economy, or about moral decline. This sense accounted for 15 of the 1000 citations of **disease** and 54 of the 1000 citations of **sickness**, including the following examples.

... the crippling **disease** of state involvement in industry.

... part of a general **sickness** of the modern mind.

It became apparent immediately that relatively few hyponyms of either **tool** or **disease/ sickness** are used with metaphorical senses. Those metaphorical senses found do not generally bear a clear relationship to the metaphorical sense of the superordinate term from the source domain. The following hyponyms of **tool** were studied: **spade**, **screwdriver**, **saw**, **spanner**, **chisel**, **hammer**, **axe**, **lever**. Intuition suggests that none of the first three have metaphorical senses, and corpus evidence confirms this. **Spanner** is used in the non-literal expression **spanner in the works**, as in the following citation.

Another Gulf War could throw a **spanner in the works** for regional tourist chiefs.

This accounts for 122 of 500 citations of **spanner**. There is no other conventionalised non-literal use of the lexeme evidenced in the corpus. Both

chisel and **hammer** have non-literal senses. The mapping is not entirely straightforward, as they change grammatically in the target domain. (Metaphor and grammatical change is discussed in more detail in Chapter Eight.) The adjective **chiselled** is a dead metaphor by my criteria, having concrete reference. This is used to describe facial features in citations such as the following, of which there are 59 in the sample 500 citations examined.

... handsome, perfectly-**chiselled** features.

Chisel is used as a verb to describe persistent action in citations such as the following, which account for 12 of the sample.

Spurs kept **chiselling** away and eventually forced a 44th-minute breakthrough.

As a noun, **hammer** has no conventionalised metaphorical senses. The verbal form has two senses, one of which is always followed by the particle **out**. The first of these describes damage or criticism, while the second describes a process of coming to an agreement after lengthy discussion.

The show was **hammered** by the critics.

The final details have been **hammered** out.

Axe has metaphorical senses both as a noun and as a verb. These are exemplified in the following citations.

The Olympic champion discovered she had been **axed**.

The **axe** has fallen on 300 jobs at Lyons Tetley.

A concordance sample of 500 citations of **axe/ axes/ axed/ axing** was examined.

Of these, 233 were verbal uses and 267 nominal. All the verbal uses were metaphorical, compared to approximately half the nominal uses. This shows that a grammatical shift accompanies the metaphorical mapping of **axe**, although it is not as great as in the cases of **chisel** and **hammer**.

Citations of **lever** suggest that it is used with a metaphorical sense which could be regarded as hyponymous to the metaphorical sense of **tool**. In the following citations, for instance, it seems that **tool** could be substituted as a more general term for **lever**.

They may use it as a bargaining **lever**.

That will give the Treasury a new **lever** to prise open foreign banking markets.

However, of the lexemes from the source domain of tools which were studied, this is the only uncontroversial case of the relation of hyponymy being mapped onto the target domain.

The study shows that any metaphorical mapping of the hyponyms of **tool** is partial and involves grammatical change in most cases. Further, the semantic relations between lexemes in the target domain are not convincingly consistent with their source domain senses. None of the non-literal senses of **spanner**, **chisel**, **hammer** or **axe** seems to be an obvious hyponym of the metaphorical sense of **tool**,

although most are not completely incompatible with this interpretation.

When hyponyms of **disease** and **sickness** are studied, there is an even less consistent picture of metaphorical mapping. Almost no words for types of illness have metaphorical senses, the most important exception being **cancer**. The metaphorical sense of **cancer** is used to refer to trends or opinions of which the speaker disapproves. In its highly negative evaluation, it is similar to metaphorical senses of **disease** and **sickness**, but it is not clearly hyponymous to them. Some other items from the field of illness are used with related metaphorical senses; these include the superordinate **symptom**, and some of its hyponyms **feverish**, **headache** and **jaundiced**. Although the metaphorical senses of these items are loosely connected by their generally negative evaluations, they are used to refer to diverse entities and feelings, as the following citations demonstrate¹.

Concern about law and order can, of course, be a **symptom** of social anxiety.

... **feverish** publicity and speculation.

The biggest **headache** for mothers hoping to return to study is childcare.

Reg observed these preparations with a **jaundiced** eye.

These studies of lexis from the fields of tools and sickness suggest that relationships of hyponymy are rarely mapped from the source to the target domain in a straightforward way, if at all. One reason for this may be that words with highly specific reference seem generally less likely to have metaphorical senses than their superordinates. For instance, the lexeme **flower** is used metaphorically,

¹ The corpus studies of these items were originally reported in a language learner's guide to

but few words for specific types of flower, with the possible exception of **rose**, have a metaphorical sense. It follows that the relation of hyponymy is less likely survive metaphorical mapping than relations such as synonymy and antonymy which operate at the same level of generality. Some source domain pairs of superordinate and hyponym do have pairs of metaphorical senses in the target domain, but in the majority of cases I have not found convincing evidence that the source domain relationship of hyponymy is mapped intact.

6.5 CONCLUSION

6.5.1 Evaluation

These studies have been based on small sections of the lexicon which may behave in atypical ways. The field of temperature, in particular, may be unrepresentative of metaphorical mapping for three reasons. Firstly, as Lakoff (1987a) and Gibbs (1994) argue, mappings of temperature onto emotions may well be grounded in the physical sensations which we associate with each emotion. These will not necessarily be arranged on a cline; for example, while we may feel cold when afraid, we do not necessarily feel hot when our fear disappears, so metaphorical senses of **cold** and **hot** would not be expected to appear on a cline which has lack of fear at one extreme and intense fear at the other. Secondly, as Fernando (1996) has pointed out, some of our associations of temperature with emotions are filtered through medieval models of character which associate elements such as fire with particular character types. These do not seem to map physical oppositions onto opposed emotions or character types. Thirdly, there is a huge difference in the complexity of the source and target domains. Temperature is a one-dimensional scale while human feelings operate over many interconnecting scales. It is perhaps to be expected that the mapping of a simple scale onto a complex field will throw up inconsistencies.

However, I defend the choice of temperature terms for this study on several grounds. Firstly, it is a field about which much has been written and a number of claims have been made. Secondly, temperature mappings may not be as atypical

as I have suggested above. The first and third points made in the previous paragraph probably apply to other metaphorical mappings. According to the contemporary theory, many of the most central metaphorical mappings are based on physical experience and thus may be inconsistent with intellectually-derived semantic relations such as antonymy. Turning to the third point, if one of the principal functions of metaphor is to help us construct and interpret the abstract, almost all important mappings will be from relatively simple and well-understood domains onto less-understood and probably more complex domains. Further, as I report in this chapter, I have examined lexis from a number of other source domains, and the findings from those domains have generally been consistent with the behaviour of lexemes from the source domain of temperature.

6.5.2 A complex view of metaphorical mapping

Arising from these studies is a far more complex view of metaphorical mapping than that outlined in any of the work discussed in section 6.2. It seems to be an over-simplification to suggest that sense relations found between lexemes in the source domain will be maintained in the target domain. This certainly is not the case for many of the conventional metaphorical senses examined here, although it cannot be ruled out that innovative metaphorical senses might be formed in this way. Nonetheless, the corpus evidence is consistent with mappings at the most generic level such as EMOTIONS ARE TEMPERATURES, PHYSICAL TOOLS ARE MEANS OF EFFECTING SOMETHING and DISEASES ARE NEGATIVE SOCIETAL PHENOMENA. At the most detailed level, as well, lexemes seem to be mapped in ways which are consistent with their source

domain relationships. Thus, **icy** and **cold** have closely related metaphorical senses of unfriendly formality, echoing their loose synonymy in the source domain.

There is a consistent mapping of the items **warm**, **tepid**, **lukewarm**, **cool**, **icy** and **chilly** onto the domain of friendliness or lack of it. This suggests loosely-related patches of small scale mappings within a much more general framework, rather than a consistent one-to-one mapping of domain onto domain at all levels of specificity.

A model of metaphorical mapping which suggests that sense relations are neatly preserved between source and target domain is intellectually satisfying, and clearly has value for the explanation of some poetic metaphor. However it does not seem to provide a complete explanation for lexical patterns found between conventional linguistic metaphors.

7. FEATURES OF LINGUISTIC METAPHOR: SYNTAGMATIC RELATIONS

7.1 INTRODUCTION

7.1.1 Syntagmatic relations and the disambiguation of senses

In the previous chapter I discussed the metaphorical mapping of the paradigmatic relations of synonymy, antonymy and hyponymy, finding that such mappings seem to exist, but in a partial and inconsistent form. In this chapter I discuss the metaphorical mapping of syntagmatic relations.

In Chapter Three it was argued following Moon (1987a) and Sinclair (1991) that an examination of the syntagmatic relations contracted by a lexeme can enable the researcher to identify its distinct senses. For instance, it was argued that one sense of **cowboy** collocates with words such as **boots** while a separate sense collocates with words such as **electrician** or **plumber**. If an extreme position is taken on this point, the claim is incompatible with strong versions of claims made by cognitive linguists such as Lakoff and Gibbs. They frequently cite lexical strings which occur in more than one domain among their evidence for the contention that whole conceptual structures are metaphorically mapped. Lakoff and Johnson, for example, cite expressions such as 'We haven't covered much ground' in this context (1980: 99). If the expression has both literal and figurative meanings, as seems intuitively to be the case, then the use of the item **covered** in the environment of **ground** will not disambiguate between the literal and

metaphorical senses of **ground**, as **covered** will collocate with both of these senses. Looking at a wider context will eventually disambiguate the expression, but the sentence by itself will be interpretable as either literal or metaphorical.

In this chapter I investigate the question of syntagmatic relations and metaphorical senses by looking for patterns of transference of collocations from source to target domains, using concordanced corpus data. The aim is to establish the extent to which syntagmatic relations from the source domain are preserved in target domains and to consider whether this is explained by the notion of the metaphorical mapping of conceptual domains.

7.1.2 Understandings of ‘collocation’

It seems that the term ‘collocation’ can be understood in at least two ways (Sinclair 1991). Firstly, it can be understood to refer to combinations of words that are allowed by the language, an understanding which I shall term ‘linguistic collocation’. When collocation is understood in this way, discussions tend to highlight unacceptable combinations, such as those sometimes created by language learners, and to contrast these with combinations preferred by competent speakers (in, for example, Channell 1981: 115, Benson 1985, Bahns 1993).

Typical of this approach would be the statement that **auburn** is only used to talk about human hair and that while the colour referred to as **auburn** is sometimes seen in furnishings, the collocation **auburn+furnishings** is not normally considered acceptable. Halliday (1966) also takes this approach when he compares the near synonyms **strong** and **powerful**, pointing out that while the

two words are very close in meaning, only **strong** is normally used as an adjective describing **tea**. This linguistic interpretation of ‘collocation’ seems to suggest a phenomenon of the language system that is not infrequently at odds with the logic of the extra-linguistic world.

Collocation can also be understood in terms of the statistical likelihood of one word appearing in the environment of another (Halliday 1966, Mackin 1978, Sinclair 1991). Actual occurrences of combinations of words can be counted, and their significance calculated in various ways (Smadja 1989, Stubbs 1995, Barnbrook 1996). Unsurprisingly, many of the most frequent combinations of lexical words found by studying corpus data tend strongly to reflect facts about the real world (Sinclair 1991: 110). For example, among the most frequent lexical collocates of **bicycle** in The Bank of English are **thief** and **accident**. These collocates seem to owe their frequency to the real-world fact that bicycles are often stolen and are often involved in accidents, rather than to quirks of the language.

The difference between linguistic collocation and statistically measured collocation is not absolute, but one of degree; clearly there would be no collocation of any sort of **auburn** with **hair** or of **strong** with **tea** if it were not for the real-world nature of hair and of tea. Further, examples of linguistic collocation can emerge from corpus studies; for example, **hair** is one of the most frequent collocates of **auburn**. A corpus study shows that **hair** or **haired** appear in 159 of

the 449 citations of **auburn** in the Bank of English¹ and **hair** is the most frequently-occurring word immediately to the right of **auburn** (Study 26).

However, some combinations cited as acceptable in writing on collocation are not highly frequent in corpus data. For example, McCarthy cites **great+problem** as an example of normal collocation, contrasting this with the questionable **large+problem** and unacceptable **large+shame** (1990: 12). While a study of corpus data (Study 27) shows that **great** occasionally occurs to the left of **problem**, it is not particularly frequent in this position, especially in comparison to its near synonyms: the forms **great/ greater/ greatest** together appear three times in the slot immediately to the left of the node in a sample 1,000 citations of **problem** from the Bank of English, while **big, main** and **major** are each between three and eight times as frequent in this slot in the sample. It seems likely that while many thousands of collocations are allowed in the language, a sizable proportion of them will not actually occur particularly frequently.

In this study, collocates are considered on the basis of their frequency of occurrence in the corpus, a method which implies the second of the above understandings of ‘collocation’. However, as has been shown, linguistic collocations sometimes constitute relatively frequently occurring patterns. While well-known examples of linguistic collocation such as **auburn+hair** were not used as a starting point, nonetheless constraints that the language imposes on combinations of words were regularly evidenced in the data.

¹ The study was conducted in May 1997, when the Bank of English consisted of 323 million

7.2 METHODOLOGY

7.2.1 Data and general procedure

In order to establish whether collocates from the source domain are transferred to the target domain, and if so, whether there are any consistent patterns of transference, I used concordanced corpus data to compare the linguistic contexts in which metaphorical and non-metaphorical senses of lexemes occur. My data consists of extracts from the concordances of four lexemes, and the analysis was focussed as outlined in the following table:

Table 7.1 Lexemes and focus of Studies 28, 29, 30 and 31

Lexeme (part of speech studied)	focus of analysis
blow (noun)	comparison of collocates of non-metaphorical sense ‘punch’ and related metaphorical senses
lean (adjective)	comparison of collocates of non-metaphorical sense ‘not having excess body fat’ and related metaphorical senses
price (noun)	investigation into collocation with pay in non-metaphorical and metaphorical senses
deep (adjective and adverb)	comparison of collocates of non-metaphorical sense and related metaphorical senses; examination of metaphorical metonym deep+breath

I chose these four lexemes because initial concordance examinations suggested that they are spread along a cline of lexical fixedness. At one end of this cline,

words.

blow apparently collocates fairly freely with a range of nearly synonymous items, while at the other extreme the collocation of **deep** with **breath** is a great deal more fixed, as will be shown later in this chapter. It seemed useful to examine lexemes across this range of collocational fixedness, because it is possible that some patterns would be missed if either only fixed or only freely-combining items were studied.

An extract of 1000 citations of each lexeme was automatically retrieved from the Bank of English. From each concordance extract, I chose a non-metaphorical sense and a related metaphorical sense or senses to examine. I used two criteria for choosing these senses. Firstly, they are the most frequent or among the most frequent senses of the lexeme, and therefore a number of citations could be studied. Further, each pair or group of senses consists of a conventional metaphor or metaphors and its literal counterpart. This analysis is based on the model of metaphorical meaning developed in Chapters Three and Four.

7.2.2 Using columns of collocates

The initial study of concordance data was refined using the programme described and exemplified in Chapter Five (5.2.3) which counts collocates in each position up to three places to either side of the node and arranges them in columns. The following table contains output of this programme where **blow** (noun only) is the node.

was	a	a	NODE	to	the	the
a	the	the	NODE	for	his	s

<p>	<h>	another	NODE	out	a	and
is	is	major	NODE	up	<p>	in
dealt	of	bitter	NODE	<p>	blow	head
be	and	serious	NODE	when	</h>	<p>
the	with	big	NODE	the	in	of
to	as	body	NODE	and	it	it
suffered	dealt	further	NODE	but	when	to
as	was	final	NODE	in	their	gover

From the above lists it is immediately clear that adjectives having the meaning ‘severe’ are among the most frequent lexical words appearing to the left of the node, and from the lists two and three slots to the left of the node it appears that **blow** is frequently the object of the verb **deal**.

However, while this output is suggestive, it is necessary to supplement it with a closer examination of citations. This is because a collocate which is fairly frequent may be used in several positions relative to the node, but not appear frequently enough in any one position to appear near the top of any column. Further, the programme does not lemmatise. This may lead to distortion where different inflections of a lemma collocate with the node but no individual inflection is used frequently enough to be listed in a column.

For both the above reasons, the frequency of the lemma PAY as a collocate of the node **price** is not indicated in the following output (compiled from the concordance extract of 1000 citations).

the	the	the	NODE	of	the	the
at	a	and	NODE	<p>	<p>	to
to	number	a	NODE	for	a	a
in	s	share	NODE	to	<h>	is
<p>	at	of	NODE	is	pound	in
of	for	<p>	NODE	pound	and	<p>
a	<p>	consumer	NODE	and	to	for
catalog	of	purchase	NODE	was	in	be
and	in	s	NODE	index	dollar	and
for	descriptio	high	NODE	the	of	photo
number	and	in	NODE	controls	pay	pict
with	an	that	NODE	fixing	for	model
by	with	oil	NODE	inflation	by	of

However, in 16 of the 1000 citations, inflections of PAY appear two words to the left of the node, in expressions such as the following.

The law seems to have some success, but the patients **pay** a **price**.

In seven citations they appear three or more words to the left.

Glenn presumably left for the money and fame - but he is **paying** a heavy **price**.

They also appear two words to the right of the node in twelve citations and three words to the right of the node in two citations.

For everything in his life, it would seem, there is a **price** to **pay**.

There is a **price** to be **paid** for versatility.

All four verbal inflections of PAY: {**pay**, **pays**, **paying**, **paid**} collocate with **price**, and appear a total of 39 times in the concordance extract studied, although in the columns of collocates the highest position of any inflection of PAY in any column is 18th. That this overview under-represents the significance of PAY as a collocate of **price** becomes clear when it is compared with the frequency of

purchase relative to its position in the columns. **Purchase** appears only 15 times altogether in the 1000 citations, but in the column of collocates immediately to the left of the node it appears eighth. It is the third most frequent lexical word in this position. The relative prominence of **purchase** is explained by two factors. Firstly, it tends to appear in the same position, 13 of its 15 occurrences being in the immediate left slot. Also, because it is a noun modifier in this position, no inflectional variation is possible.

The implication of the above discussion is that in order to get an accurate idea of the relative frequency of a collocation such as PAY + **price**, it is necessary to examine citations individually, looking for different inflections of the lemma occurring in any slot close to the node. However, where the collocates of interest are items which show little variation in position and form, such as noun modifiers or some adverbs, columns of collocates are very useful. They also provide a very helpful starting point in identifying fixed expressions, as is shown in 7.3.

7.2.3 Using concordance citations

Following an initial examination of columns of collocates, the concordance extract of each lexeme was looked at in full. Citations of the senses to be examined were isolated. Frequent collocates of the node were then studied in order to establish to what extent these appeared in both metaphorical and non-metaphorical senses. Where the same immediate collocates were used across source and target domains, the wider context was examined in order to search for other patterns which would indicate whether a literal or metaphorical sense was

intended.

7.3 RESULTS AND DISCUSSION

In this section I discuss the findings of the four corpus studies, beginning with a summary of one of them. I then use data from all four studies to consider in more detail two central and apparently conflicting types of collocational pattern. In the last part of the section I discuss collocations that show a degree of fixedness bordering on that associated with idioms, drawing particularly on data from the study of **deep+breath**.

7.3.1 Summary of results of Study 27: ‘blow’

The columns of collocates of nominal **blow** show that lexical items tend to cluster in the first slot to the left and so this column was examined in more detail. The table below gives the 25 words occurring most frequently to the left of nominal **blow** in descending order of frequency. As lexical collocates are of particular interest, these are shown in bold. Only the senses under discussion are counted and exemplified in the third, fourth and fifth columns, and for this reason the numbers in the third and fourth columns do not total the number in the second column. As collocates occurring fewer than 7 times in 1000 citations are not included in this table, a few instances of the senses under discussion are not represented here.

Table 7.2 Most frequent immediate left collocates of 'blow'

collocate	total no. of citations	1.non-metaphorical: 'punch'	2.metaphorically related to 1	examples
ALL COLLOCATES IN SAMPLE	1000	110	678	
a	208	21	155	He pursued the bird and felled it with a blow to the head. The sentence clearly came as a blow to 28-year-old Mr Leeson. For the EC bureaucrats it was a blow for equality.
the	74	22	29	The blow drove Lindsay back against the brick wall of the school building. The government's short-term interest argues for a subsidy to soften the blow .
another	41	5	35	The bigger boy crashed another blow into Billy's unprotected face. Her loss is another blow to the three times a week series following the departure of actor Jon Iles.
major	23	0	23	It was a major blow to Allied hopes of victory.
bitter	22	0	22	The following January, there was another bitter blow . The couple's once- a-week access visits were being cut to once a fortnight.
serious	20	0	20	Its credibility suffered a serious blow in July.
big	19	0	16	This is a big blow to our plans.
body	18	0	18	But her sudden decision to leave British shores must be something of a body blow to our native fashion industry.

further	15	0	15	The move is a further blow to Hillsdown, after its disastrous rights issue in October.
final	14	0	14	The final blow was a delay in release, which meant that it went up against numerous Christmas films.
severe	12	0	12	Damon Hill's world championship challenge suffered a severe blow .
double	12	0	12	Thousands of dependents of public sector workers are being dealt a double blow when their partners die.
fatal	12	2	10	For the prosecution case to stand, it will be necessary to prove that Lenny McLean struck the fatal blow . The fatal blow for the motorway trials came last week.
terrible	11	0	11	The loss was a terrible blow to him.
and	9	0	1	... the real possibilities of failure and the disappointment and blow to your self-esteem which this may bring.
that	9	3	0	I struck the nearest one in the knees. All my strength was in that blow .
by	9	0	0	(no citations of these senses)
first	9	3	6	Blake staggered under the force of the first blow , but managed to dodge the second. The evening of the meeting was wet, a first blow . Many of the Club ladies would never venture out through rain.
crushing	9	1	8	Prudhomme had been killed by a crushing blow to the head. But the crushing blow fell this week for those farmers ...

devastating	8	0	8	She was told to wait another year. It was a devastating blow to their love affair.
death	8	0	8	This could deal a death blow to the collapsing national economy.
hammer	8	1	7	The cage collapsed under the hammer- blow impact. Two car makers axed a total of 2,400 jobs yesterday in a hammer blow to the industry.
real	7	0	7	He was working in a bar in Bristol to help out an old friend when he got a phone call and this was the real blow .
heavy	7	1	6	Mr Johnston suffered a heavy blow to the left eye. The announcement will be a heavy blow to investors.
huge	7	0	7	Not to participate would be a huge blow to everyone.

This study suggests that syntagmatic relations are mapped from source to target domain in two different patterns. In the first of these, non-metaphorical and metaphorical senses appear to share collocates. In some cases it seems highly likely that shared collocates have been transferred metaphorically from the source domain of the node. For example, the collocation of **hammer** with the metaphorical sense of **blow**, which occurs seven times in the sample, is almost certainly the result of such a process.

In the second pattern, a metaphorical sense is used in collocations which demonstrate a degree of lexical and, sometimes, syntactic fixedness. One example of this is the collocation **come as/ be a body blow to** which shows little lexical or

syntactic variation. Such fixed collocations are often not shared by the non-metaphorical sense, although some of their lexical elements, such as **body** in this example, seem to be the result of metaphorical transfer from the same source domain as the node. These two patterns are now examined in more detail.

7.3.2 Collocates shared by metaphorical and non-metaphorical senses of lexemes

The first of the patterns mentioned above, in which collocates are shared by non-metaphorical and metaphorical senses, is exemplified by the collocations of the lexical words **first**, **heavy**, **hammer** and **fatal** with **blow**. Examination of a larger sample shows that **knockout** can be added to this list, as it occasionally collocates with non-metaphorical as well as metaphorical senses of **blow**. Further, a detailed examination of the concordance shows that the 43 occurrences of inflections of the lemma STRIKE in the sample are split between literal and metaphorical senses, eight collocating with non-metaphorical **blow** and 35 collocating with metaphorical **blow**.

In each of the above cases, the collocation is several times more frequent for metaphorical than for non-metaphorical senses. However, examination of other pairs of non-metaphorical and metaphorical senses shows that the reverse is sometimes true. For example, collocations of **lean** with **fit** are more frequent for the non-metaphorical sense of **lean**, although they also occur with a metaphorical sense: **fit** collocates 14 times with non-metaphorical **lean** and three times with metaphorical **lean** in the sample 1000 citations of adjectival **lean**. In cases such as

these it does not seem to be possible to predict whether a particular collocation will be more frequent for the metaphorical or non-metaphorical senses. It may be that for individual combinations the ratio of metaphorical to non-metaphorical citations shifts over time, given that metaphorisation is acknowledged to be generally ongoing (Halliday 1994, Kittay 1987).

It has been noted that some collocates occur with both metaphorical and non-metaphorical senses of a polysemous lexeme. A closer examination of citations suggests that where this happens, different senses can occasionally be distinguished at a more detailed level. For instance, different senses may occur in different structural patterns, or with different non-lexical collocates. An example of this is the case of STRIKE and **blow**, where the pattern of shared collocates which do not disambiguate is dominant. The majority of citations containing these two items do not have structural or lexical patterning that disambiguates senses of **blow** without an examination of the wider context. However, where the string **a+blow+for** occurs in collocation with STRIKE (five citations in the sample), **blow** is always metaphorical.

7.3.3 Collocations unique to metaphorical senses of lexemes

The tendency for different senses to share collocates is apparently in opposition to the second type of collocational pattern noted, in which some combinations are unique to a metaphorical sense of a lexeme. These combinations can be grouped into two main types. The first of these occurs where two items from the same source domain collocate to form a combination unique to the target domain sense.

It was found that some pairs of lexemes which have senses in the same source and target domains collocate with each other exclusively in the target domain. For example, **death** and **blow** are both used separately in the source domain of physical violence and in the target domain of disappointment. However, in the sample **death** only premodifies **blow** when the items are used in the target domain. The non-metaphorical senses of **death** and **blow** seem compatible, so it is not clear why the combination **death+blow** should be so rare in the source domain. Another example of this phenomenon is the collocation of PAY with **price**. Each item occurs individually in both the source domain and in the target domain. However, a metaphorical sense of both items is used in all of the 39 citations in the 1,000 citation extract. Two citations are shown:

The law seems to have some success, but the patients **pay** a **price**.
There is a **price** to be **paid** for versatility.

Utterances such as ‘He paid a high price for that car’, where **price** refers non-metaphorically to money exchanged for goods, intuitively seem to be possible but do not actually occur in the data studied, which suggests that they are rare.

A further example is seen in the 1,000 citation extract from the concordance of **deep**. In 14 citations, **down** occurs in the slot immediately to the right of the node. The two items have non-metaphorical senses from the same source domain, direction and measurement, and there seems to be no reason why they should not combine with these meanings in the source domain. This seems to be rare however, as in the sample studied the items only occur adjacently when they have

a metaphorical sense, in citations such as the following:

Deep down there are parts of him that are still insecure after all these years.

There is a second group of lexical items that collocate with the metaphorical senses of some lexemes but not with their non-metaphorical counterparts. These items are general in meaning, and include **bitter** (meaning ‘causing great sadness’) and **major**. Their concordances suggest that they are used in a wide range of contexts and are not closely tied to any one particular domain. It would seem to be possible for them to collocate with both non-metaphorical and metaphorical senses of many lexemes, but in the sample they appear only in combination with metaphorical senses.

An example of this type of collocation is that of **bitter** with **blow**, a combination only associated with the metaphorical ‘unpleasant event’ sense of **blow** in the 1000 citations of **blow** studied. A wider study shows this to be the case for all of the 148 occurrences of **bitter+blow** in the Bank of English. The following citation is typical.

His resignation would be a **bitter blow** to the network, which last week lost long-time managing director Bob Campbell.

It is possible to imagine a context in which the ‘causing great sadness’ sense of **bitter** could be applied to the non-metaphorical sense of **blow**, yet this combination does not occur. Other lexical items which apparently only premodify **blow** in its metaphorical sense but which do not seem incompatible in meaning

with its non-metaphorical sense include **major**, **big** and **severe**.

The restriction of some collocates with a general meaning to metaphorical senses is also exemplified by the collocation **heavy+price**. A study of all the occurrences of the collocation in the Bank of English strongly suggests that **heavy** collocates with **price** only when **price** is used in its metaphorical sense of ‘unpleasant consequence’, in citations such as the following.

For these sentiments, Si Saber, a 31-year-old journalist, is paying a **heavy price**. She lives in constant fear of assassination.

The tendency for **bitter** to collocate only with the metaphorical sense of **blow**, and likewise for **heavy** to occur only where **price** is used metaphorically could perhaps be explained semantically. Both **bitter** meaning ‘causing great sadness’ and **heavy** meaning ‘serious’ are used to talk about subjective impressions and reactions, and so might tend to collocate more strongly with abstract, metaphorical senses than with concrete, literal senses. However it would not be impossible for either of these adjectives to collocate with the non-metaphorical senses of **blow** or **price**; a **bitter blow** might refer to a blow which ends a boxer’s career, and a **heavy price** might be a non-metaphorical price which is considered to be unreasonably high. Nonetheless, with the exception of a small number of citations in which the collocation modifies another noun, in phrases such as **heavy price reductions**, such uses do not occur in the 239 collocations of **heavy + price** in the Bank of English¹.

¹ The collocation was examined when the Bank of English consisted of 323 million words.

To summarise the above points, it seems firstly that there is a tendency for collocational patterns occurring in the source domain to be carried into a target domain, as is illustrated by the metaphorical and non-metaphorical combinations **knockout blow** and **hammer blow**. There are also combinations which are unique to the target domain.

7.3.4 Syntagmatic relations and polysemy

It was argued above that some collocational patterns are unique to certain senses of some lexemes. As a general observation, this is not new: the correlation of collocation with meaning has been noted by several writers. For example Moon points out that the homonyms **skate** (fish) and **skate** (on ice) are disambiguated by collocates such as the names of other fish and words such as **ice** and **roller** (1987a: 42- 44). Examples of collocates disambiguating polysemes are also fairly easy to find. For example, **lean** in the sense of ‘unpleasant or difficult’ (of a period of time) can be distinguished from other senses such as ‘not having excess body fat’ and ‘not wasteful’ (of management) by its collocation with words such as **years** and **times** in citations such as the following.

They never wanted for anything, not even during the **lean** years when other families suffered poverty and shame.

While the capacity of collocations to disambiguate, for example, **roller+skate** or **lean+times**, has important implications for the development of systems for the automatic classification of meaning (Clear 1994, McEnery and Wilson 1996: 72), it does not seem particularly surprising. The collocations of **roller** with

skate=fish, or **lean**=‘having no excess fat’ with **times** would clearly be logically absurd in almost all contexts. In the case of **blow**, **price** and **deep** however, the capacity of the collocates discussed above to disambiguate senses is less predictable, because there seems to be no extra-linguistic reason why these collocates should behave in this way. There does not seem to be anything in the meaning of **death**, **bitter**, **major** or **severe** that would prevent their collocating with non-metaphorical **blow**, and yet these collocations apparently occur extremely rarely. These restrictions seem to constitute a further example of the ‘linguistic’ collocation discussed above. However they differ from the examples discussed in the literature, in that the collocates which are specific to different senses of the nodes are not easily identifiable without the aid of corpus data.

The patterns discussed in this section have implications for the use of collocates to disambiguate metaphorical and non-metaphorical senses of a lexeme. Some target-domain lexis can disambiguate metaphorical from non-metaphorical senses. However, collocates from the source domain cannot disambiguate predictably because they are always available for metaphorical transfer to the target domain. The only exception to have emerged from these studies is the case of metonymically-grounded fixed expressions, discussed below. It seems that in general the potential of domain-specific collocates to disambiguate applies only to combinations found in the target domain.

The patterns discussed here also have implications for the application of the contemporary theory of metaphor to the description of language. They suggest

that while lexis from the source domain is often mapped onto the target domain, this mapping does not account for all the syntagmatic patterns found in the target domain. If the corpus data discussed here are representative, it seems that the language of target domains often contains distinctive and unpredictable syntagmatic patterns.

7.3.5 Fixed non-literal collocations and idiom

I now consider the literal and metaphorical senses of the non-decomposable and relatively fixed collocation **deep+breath**. The aim of the study is to determine whether the non-literal sense of this fixed collocation can be explained by the notion of metaphorical mapping in the same way as the more freely combining metaphors discussed above.

Eight citations from the concordance are given.

01 numbers. <p> Next day I took a **deep breath** and called her at
 02and his throat was thick. He took a **deep breath** that shook, then he
 03to you." <p> The older woman took a **deep breath**, went into the bath
 04remember him. Go on." <p> Amy took a **deep breath**. `I want something to
 05eeve over his brow and drew a long, **deep breath**. Yes, all was fine.
 06t was fun to be silly. <p> I took a **deep breath**, gazed at myself in
 07 t lack it was courage. She took a **deep breath**, squared her
 08 affected side. At the same time, a **deep breath** is taken in. This

The above citations suggest that where **deep+breath** has a potentially non-literal meaning, it is the object of the lemma TAKE. TAKE also occurs with the literal sense of the collocation, and therefore cannot be used to disambiguate literal and metaphorical senses of **deep breath**. However, where **deep+breath** is the object of a verb other than TAKE, such as DRAW, its meaning is non-metaphorical, as is the case in citation five. An examination of the complete concordance of **deep+breath** confirms this pattern. This means that metaphoricity is only found in the entire expression **take a deep breath**. This degree of lexical fixedness is a feature traditionally associated with idioms.

Take a deep breath has other features often associated with idioms. Its non-literal sense cannot be analysed into individual lexical items as none of the component lexical items, **take**, **deep** or **breath**, corresponds individually to a component of the non-literal meaning. This can be contrasted to the metaphorical collocation **deal+blow**, in which **deal** corresponds metaphorically to an action which has unpleasant consequences and **blow** corresponds to those consequences. In the terminology used by Gibbs *et al.* (Gibbs, Nayak, Bolton and Keppel 1989, Gibbs, Nayak and Cutting 1989), **deal+blow** is decomposable while **deep+breath** is not. The use of **deep** in this fixed collocation is different in nature from its non-literal use in citations such as the following:

I remember feeling a really **deep, deep** sadness.

... a nation humbled by **deep** financial crisis.

The senses of **deep** exemplified in these citations are freestanding in that they combine with a range of lexical items in the corpus rather than appearing in a limited number of fixed collocations. They are independent in that they have a non-literal sense which can be described and paraphrased. In contrast **deep** in **take a deep breath** does not have a freestanding, independent non-literal sense.

In addition to demonstrating lexical fixedness and non-decompositionality, non-literal **take a deep breath** also shows a degree of syntactic fixedness.

Grammatical transformations such as ‘a deep breath was taken’ are not conventionally used with non-literal meaning. This is a further quality associated with idioms.

Despite its several idiom-like features, to classify **take a deep breath** as an idiom would be unsafe, because it lacks another feature often associated with idioms, semantic opacity (Nattinger and DeCarrico 1992: 33). **Take a deep breath** is relatively transparent; its non-literal meaning seems reasonably easy to deduce through a knowledge of the literal meanings of its parts. Further, unlike ‘classical’ idioms such as **to have kittens** (of people) and **to move heaven and earth**, it has a literal interpretation (Moon 1992a: 496). Cowie describes expressions which ‘also preserve a current literal interpretation’ such as **do a U-turn** as ‘figurative idioms’, and distinguishes these from ‘idioms proper’ which do not have non-

figurative interpretations (1981: 229). Much recent research into collocations and idioms suggests that there is a cline through fixed collocations to pure idioms (Moon 1992b: 14, Carter 1992: 61- 65). **Take a deep breath** seems to occupy a place further along the continuum towards pure idioms than the other collocations considered so far in this chapter, and seems different in kind from them in some of its formal features.

7.3.6 Fixed collocations, ambiguity and metonymy

For the majority of lexemes discussed in this chapter, it is fairly straightforward to decide whether a metaphorical or non-metaphorical sense is intended if a wide enough context is examined; collocations can almost always distinguish senses at some level, albeit in some cases at a very delicate one. In contrast, **take a deep+breath** is ambiguous in this regard, collocational patterns seeming to be shared across source and target domains.

As discussed in Chapter Two, this expression shows a continuum of meaning from its literal to its non-literal sense. Ambiguity can be seen in the above concordance extract. In citation eight it seems likely that the collocation is intended to refer to a physical action, and so by the criteria developed in Chapter Four, these are instances of non-metaphorical **deep** and **breath**. In citation five, **drew** disambiguates. However in the other six citations it is unclear whether the expression is intended literally or whether it is intended to refer to the psychological action of preparing oneself for an unpleasant or frightening encounter. In most cases it seems likely that both interpretations are intended and

that the reference to non-metaphorically taking a deep breath is intended to symbolise psychological preparation. This is an example of metonymy; breathing deeply is one symptom or aspect of psychological preparation, and this aspect is being used to stand linguistically for the entire mental and physical process. As noted in Chapter Two, this means that **take a deep breath** is a metaphorical metonym.

It has been pointed out above that the use of **deep** in **take a deep breath** does not have an independent metaphorical meaning in the way that it does in phrases such as ‘a deep sadness’. This seems to be because at the level of thought the physical action of taking a deep breath is mapped onto the domain of psychological states, and thus at the level of language, the linguistic expression is mapped as a whole and is not decomposable. This implies a different type of mapping from that in which single lexemes develop metaphorical senses. It suggests that metonymically-grounded mappings may be likely to result in linguistic expressions which take the form of fixed collocations.

7. 4 IMPLICATIONS

In this section I first attempt to generalise from the above discussion and I then suggest that there may be several underlying tendencies in metaphorical thought and in language which might explain these patterns.

7.4.1 Cross-domain mapping of collocates

Where a polysemous lexeme is used in collocation with a lexical item known to belong to the target domain, it can usually be assumed that the node lexeme is being used in its metaphorical sense. This is because metaphorical transfer apparently only works from source to target, so it would be highly unlikely for the target domain collocates to have been transferred to the source domain of the node. Where a fixed collocation is closely associated with the target domain, it is highly unlikely to be transferred and used to talk about the source domain.

Deliberate plays on language, including the revitalising of metaphors, constitute exceptions to the above rule. These are known to occur in fields such as journalism and advertising (Fernando 1996:6, Cook 1992: 42, 54). For instance, in 1997 a poster campaign in West Yorkshire, appealing to members of the public to give blood, used the slogan ‘Anyone with a heart can give blood’. In Bank of English citations, the collocation **with a heart** is usually associated with the metaphorical sense of **heart**, meaning ‘feelings of compassion’. This metaphorical sense provides one interpretation of the slogan, but the phrase can also be interpreted using the literal sense of **heart**. This has the effect of drawing attention to the metaphor. Both the markedness of such uses and their rarity in the corpus show that they are innovative rather than conventional, and therefore outside the scope of this thesis.

Where a polysemous lexeme is used in collocation with a lexical item known to belong to the source domain, it cannot be assumed that the node lexeme is being used non-metaphorically. This examination of Bank of English data has suggested

that speakers are inventive and willing to exploit existing metaphors. It seems that speakers use metaphor as a resource. This implies that any source domain collocate has the potential to be transferred metaphorically. Examples of writers exploiting metaphor in this way appear regularly in the corpora, in citations such as the following, in which **tunnel**, **climb** and **hole** are given metaphorical meanings by analogy with **deep**.

The reader is then led into a **deep tunnel** of explanations which, given Speer's own evasions, seems oddly unconvincing in the end.

... someone who has seen drug addicts time and time again round the country trying to **climb** out of that **deep hole**.

These metaphorical meanings do not seem to be established in the language. They are not noted in the Shorter Oxford English Dictionary (Little *et al.* 1973), and do not appear significantly in the corpus but they can be readily decoded through context and by analogy with **deep**. It seems possible that although meanings such as these begin as innovative metaphors, they can eventually become conventionalised.

In some cases particular pairs of lexical items from the same source domain only occur in combination when they are used metaphorically. In other cases, it is difficult to determine whether a literal or figurative meaning is intended even when a wide context is examined. This is typically the case where a collocation is relatively fixed both syntactically and lexically.

There seems to be another type of non-literal expression, exemplified here by

take a deep breath, which has several linguistic features in common with idiom and which seems traceable to metonymically-motivated mapping.

7.4.2 Two types of metaphorical mapping

The collocational patterns outlined above can be explained by the existence of two separate types of metaphorical transfer. In the first type, exemplified above by **deep+breath**, idioms and idiom-like collocations are created when a lexical string is transferred as a chunk from source to target domains. The string is typically unanalysable when used metaphorically, and relatively fixed syntactically and lexically, although its form may sometimes be exploited for effect. Many of the examples of non-literal language discussed by Gibbs are of this type. He argues that these metaphorical expressions describe physical experiences that we associate with more abstract processes, which have come to stand for the abstract processes themselves.

Metaphorical meaning is grounded in nonmetaphorical aspects of recurring bodily experience or experiential gestalts. (1994: 16).

The terms ‘bodily experience’ and ‘experiential gestalts’ seem to imply a mapping of unanalysed physical experience and folk concepts. These mappings are realised in linguistic expressions that gain their metaphorical force from their meaning as a whole and as a result they cannot be analysed into their component parts using analogy.

In the second type of transfer, exemplified above by **blow** and its collocates, a

conceptual area, the source domain, is mapped onto another area, the target domain, resulting in the metaphorical extension of individual lexical items from the source domain into the target domain. Individual lexical items may be mapped across at different points in time, to form conventional metaphors. The conceptual mapping is also available for the creation of innovative linguistic mappings such as those which are created in literature (Lakoff and Turner 1989). This type of mapping differs from the transfer of strings in that it is broader; a semantic field rather than a single 'bodily experience or experiential gestalt' is mapped. It also differs in that each linguistic item appears to take on an individual value in the target domain, and collocations in the target domain are thus analysable.

Consequently the relationships between collocating lexemes in the target domain should be roughly analogous to their meanings in the source domain. This type of mapping could be considered intellectual in that it draws on the process of analogy, in contrast to the mapping of strings, which draws on physical experience and gestalts rather than mentally constructed models.

Although the existence of two types of metaphorical mapping may explain the linguistic data more convincingly than a single model, inconsistencies remain. As Nayak and Gibbs write:

There are important linguistic conventions that determine the creation and use of idioms. (1990: 329)

Suggestions about the nature of some of these conventions are put forward below.

7.4.3 Linguistic forces and constraints

The studies in the previous chapter, in which paradigmatic relations contracted in the target domain were examined, suggest that the metaphorical mapping of domains is not as complete or as coherent as might be expected. Similarly, the series of studies reported in this chapter throws up inconsistencies which are not entirely explained by the models of metaphorical mapping put forward here. It seems that to be consistent with the data examined here a model must allow for linguistic tendencies that operate independently of cognitive mapping.

The model of two types of metaphorical mapping does not explain why linguistic collocations resulting from the second type of mapping can be interpreted by analogy with the source domain but are not always identical to collocational patterns found in the source domain. For example the metaphorical collocation **pay+price** can be analysed with reference to the non-metaphorical meanings of each item but the combination does not actually occur non-metaphorically in the sample of Bank of English data examined here. It seems that in opposition there is a strong tendency in language towards the fixing of lexical items in chunks (Sinclair 1991). This means that where several lexical items are transferred to target domains, they eventually tend to fossilise into regular collocations that occur only in the target domain. This tendency was exemplified above by the collocations **strike a blow for** and **deep down**, both of which appear in characteristic semi-fixed syntactic and lexical environments. Thus the tendency to map creatively and intellectually from source to target domains is restrained by a conflicting tendency, to fix and reuse conventionalised strings. People generally

desire to communicate unambiguously (Grice 1967), and therefore it seems likely that once particular collocations become associated with a particular sense of a lexeme, speakers are reluctant to use them with a different sense of that lexeme. To do so might lead hearers to process a different sense of the lexeme from that intended.

The above would suggest that non-literal combinations, ranging from fixed collocations to pure idioms, may have their origins in one of two processes. These are firstly the fossilisation of collocations which were originally transferred as part of the mapping of a larger semantic field and secondly the transfer of a string lexicalising an experiential gestalt or bodily experience. The first is principally metaphorical in origin, the second principally metonymic.

7.5 CONCLUSION

The study discussed in this chapter has attempted to answer the question ‘To what extent are syntagmatic relations preserved in the mapping from source to target domain?’. The answers seem far from straightforward. The analysis of data suggests that there are conflicting tendencies which may be general to many aspects of language use. These are firstly towards creativity, the intellectual exploitation of lexical relations, and secondly towards the packaging of ideas, leading to unanalysed strings. Each of these tendencies influences collocational patterns in complex and sometimes conflicting ways. This study suggests that a view of metaphor as a mapping of concepts from one domain to another is useful

as a starting point in the attempt to account for syntagmatic relations between items used metaphorically, but that this view is not sufficient to explain the complex patterns found in the data.

In her discussion of polysemy, Lehrer makes the following observation, which could equally well apply to the studies and discussion in this chapter.

Each principle is simple, but the principles interact in complex and sometimes contradictory ways, resulting in a lexicon that is highly structured but not always in predictable ways. (1990: 237)

8. FEATURES OF LINGUISTIC METAPHOR: SYNTAX

8.1 INTRODUCTION

In Chapter Three I argued that different senses of a polysemous lexeme are often used in different syntactic patterns. For example, the concordances of some nouns show that their count and uncount uses belong to discernibly different senses (Moon 1987a). Similarly, the transitive and intransitive uses of some verbs can be assigned to distinct senses (Sinclair 1991), as can some ungraded and graded uses of adjectives such as **heavy**. On the other hand it was also noted that some pairs of polysemes appear to have identical syntactical behaviour. This implies that distinct senses cannot always be disambiguated by the structural patterns in which they occur. None of these studies specifies the type of semantic relationship existing between the senses separated, and none of the examples given above consists of a pair of metaphorical and non-metaphorical senses. The question of whether syntactical patterns are generally shared between metaphorical senses and their non-metaphorical counterparts has not yet been considered in this thesis, and is the focus of this chapter.

In the literature on metaphor and language, the question of formal syntactic behaviour is little discussed, perhaps being generally considered less interesting than semantic features of metaphor. Exceptions include Brooke-Rose (1958), Low (1988) and Goatly (1997). Brooke-Rose gives a comprehensive discussion of grammatical patterns in which metaphors are used, but as her area of interest is

literary metaphors, her findings are not of direct relevance to this study of conventional metaphors. Low discusses metaphor and grammar only in passing, but makes the important observation that where two words exist which are identical in form and semantically related but belonging to a different grammatical class, one word may have a metaphorical use which is not extended to the other. For example, whereas the verb **snake** is a conventional metaphor in ‘The river snaked (its way) through the jungle’ the noun **snake** is not conventionally used to refer to a river (1988: 131). My corpus investigation of frequent linguistic metaphors from a number of semantic fields (Deignan 1995) also showed that it is not unusual for a metaphorical sense to have different grammatical characteristics from its non-metaphorical counterpart. Goatly studies conventional metaphors using naturally-occurring examples and arrives at the same conclusion. His study differs from the work described in this chapter in that he does not appear to use his corpus to look at large numbers of instances of lexemes.

In this chapter I describe and discuss corpus-based studies of the syntactic behaviour of a number of pairs of metaphorical and non-metaphorical senses of lexemes. I describe in detail the behaviour of three lexemes: SHOULDER (Study 32), HEART (Study 33) and SHRED (Study 34); and I then overview the syntactic behaviour of a number of lexemes which realise two metaphorical mappings.

SHOULDER and HEART have been selected as examples of the important group

of metaphors whose non-metaphorical senses belong to the domain of the human body. The metaphorical analysis of SHOULDER is relatively straightforward for two reasons: it has just one central conventional metaphorical meaning, with a fairly clearly-definable cluster of less frequent meanings; and splitting citations into metaphorical and non-metaphorical senses is on the whole uncontroversial, as will be shown. The concordance of HEART presents a slightly more complex picture, showing several frequent metaphorical senses. The metaphorical sense of SHRED is a realisation of a systematic metaphorical transfer in which abstract entities are talked about as if they were pieces of fabric. Instances of the metaphorical sense are frequent and relatively straightforward to identify.

In analysing SHOULDER, HEART and SHRED, I consider the broad grammatical category of part of speech and then examine finer syntactic differences in use between metaphorical and non-metaphorical senses.

Following these analyses, I look at a number of further examples from the source domains of animals and cooking. These studies are different in focus in that they consider lexical types across a relatively wide semantic area rather than the frequency of tokens of one lexeme.

8.2 CORPUS STUDY 32: SHOULDER

8.2.1 Methodology

A randomly selected concordance extract of 1,000 citations of the word forms **shoulder**, **shouldering**, **shouldered** and **shoulders** was examined. When the concordancer is asked to search for more than one word form and to display only a proportion of the concordance, as in this and the following two studies, it displays citations of the different word forms in proportion to their overall occurrence in the corpus. The citations were first classified and counted by part of speech, and then categorised into types of metonym and metaphor according to the criteria developed in Chapters Two and Four¹. Categories which emerged from this second classification were non-metaphorical, dead metaphor, conventional metaphor and metaphorical metonym.

A breakdown by part of speech showed that of the 1,000 citations, 13 appeared in non-metaphorical adjectival combinations such as **broad-shouldered** and **round-shouldered**. These were not examined further. 940 citations were of the singular or plural noun, and the remaining 47 citations were various forms of the verb.

8.2.2 SHOULDER used as a noun

Of 940 citations of **shoulder(s)** as a singular or plural noun, 839 are fairly clear-cut instances of non-metaphor or dead metaphor. In eleven of the cases of dead metaphor, **shoulder** appears in the expression **hard shoulder**, a collocation which

¹ Part of this study is also described in Deignan (in press).

should perhaps be considered as a single lexical item, but which in any case is of little interest here.

A further group is added to the above. At the extreme end of the cline from freely-combining items to fixed collocations are two expressions which would be regarded as ‘classical idioms’ in Moon’s terminology (1992a) and ‘idioms proper’ by Cowie (1981), on the grounds that there is not normally a literal interpretation of the string, which is not decomposable. These are **have a chip on one’s shoulder** and **cold shoulder**, in expressions such as **give someone the cold shoulder**. These are classified as dead metaphors here because they meet the conditions outlined in Chapter Four for that category: that is, while they could, just, be understood ‘literally’, it seems highly unlikely that they would activate a more ‘core’ sense in normal use. Indeed, Burbules, Schraw and Trathen (1989) would consider such expressions as barely figurative at all on the grounds that they have only one plausible interpretation in most contexts. Given the attention paid to idioms such as these in the literature on non-literal language however, to regard them as completely literal would seem to be counter to most researchers’ intuitions.

It could justifiably be argued that to group the above idioms with the expression **hard shoulder** without developing a series of subdivisions within the category is a gross oversimplification, because this grouping ignores some of the central characteristics of these idioms, such as their phrase structure and their pragmatic meaning. However, as the category of dead metaphors is only of peripheral

interest to this thesis, distinctions within it are not explored here. Instances of the above two idioms then add a further 17 citations to the category of dead metaphor, making a total of 856 non-metaphors and dead metaphors.

Of the remaining 84 citations in which **shoulder(s)** is a noun, 37 are examples of conventional metaphor. In 31 cases, citations are instances of what appears to be a systematic mapping from a concrete domain onto an abstract domain. The concrete domain is that of a physical struggle to carry a heavy load, and this is mapped onto the abstract domain of responsibility. Linguistic realisations of this mapping such as the following are numerous and frequent in the Bank of English:

He's still worried that business is **bearing too heavy a burden**.

If you are responsible for children, **lighten the load** by asking others to help.

In the following citations, **shoulders** is used as a lexicalisation of this mapping.

Don't start on Newtie, he's got enough on his **shoulders**.

Debt can seem like an unbearable load on your **shoulders**.

This sense of **shoulders** seems to combine fairly freely with items from both the source and target domains. Frequent collocates from the source domain include **load**, **weight**, and **burden**, and from the target domain, **responsibility** and **blame**.

The singular form, **shoulder**, does not appear with this meaning.

A further use of nominal **shoulders** seems to be a lexicalisation of one of the

frequent set of orientation metaphors, UP IS GOOD (Lakoff and Johnson 1980).

This is the expression **be head and shoulders above someone**, used to mean ‘be superior’, which appears six times in the sample.

I think David Lloyd **is head and shoulders** above everyone else that operates in that lifestyle kind of business.

Unlike the sense of **shoulder** discussed previously, this expression seems to be lexically fixed: no variants on the canonical **head and shoulders above** string were found in the sample. Again, this sense is exclusive to the plural noun. It seems likely that this expression is metonymically grounded in our physical experience that we can see the heads and shoulders of people who are taller or standing on high ground. However, as the non-literal sense does not shade into a literal sense, it is not classified as a metaphorical metonym but as a metonymically-grounded conventional metaphor.

In 47 further cases, nominal **shoulder(s)** appears in an expression describing a physical action associated with a mental or emotional state or event, and it appears that the expression is used to stand for this state or event. These uses of nominal **shoulder(s)** are metaphorical metonyms in the classification developed in Chapter Two.

There is a cline between metaphorical metonyms which are fairly freely combining and those which occur in more fixed expressions. At the freely-combining end is the use of **shoulder** to refer to emotional support, in expressions

such as **cry on someone's shoulder** and **a shoulder to lean on**. More fixed is the metaphorical metonym **rub shoulders with someone**, which appears in 26 citations, including the following:

The most learned scholars **rubbed shoulders** with young graduates nervously presenting their first communications.

New York has always had great contrasts, wealth **rubbing shoulders** with poverty.

Other fairly fixed metaphorical metonyms in which nominal **shoulder(s)** occurs include **look over someone's shoulder**, with the meanings of 'supervise' and 'observe warily', in the following examples:

And you've got to get on with things without someone **looking over your shoulder**.

American retailers in particular are **looking** anxiously **over their shoulders** at a new threat in their own backyard.

8.2.3 SHOULDER used as a verb

Of the 47 citations in which **shoulder** is used as a verb in the sample, there are two non-metaphorical citations. It was expected that these would have the meaning 'carry on the shoulders with difficulty', the physical act to which the metaphorical use seems to be an allusion. In fact this turned out not be the case; in both cases the action referred to was moving through a crowd by pushing past people with the shoulders, as the following citation shows:

Then he **shouldered** his way through the soldiers shouting in five languages.

There is no evidence in the sample looked at for a verb **shoulder** with the

meaning of ‘carry on the shoulders’, although this sense is attested in the *Shorter Oxford English Dictionary* (Little *et al.* 1973).

In six further instances, **shoulder** appears in variants on the classical idiom **give someone the cold shoulder**, in citations such as

I'm not being **cold-shouldered**, but I'm not exactly being welcomed with open arms either.

This use will be considered as a dead metaphor, for the reasons given above in the discussion of the nominal use of **shoulder** in this expression.

In 39 further citations, verbal **shoulder** is metaphorical and is used to connote responsibility, as the following examples illustrate:

All over the country, but particularly in London, other hospitals are being required to **shoulder** similar burdens.

By **shouldering** a wide variety of risks, an investor reduces the volatility of his portfolio.

This use of **shoulder** seems to suggest an image of a person carrying a heavy load on their shoulders; the load is a metaphor for their responsibility, problem or risk, and the verb **shoulder** is a metaphor for the act of having this responsibility, problem or risk. This is clearly related to the nominal metaphor discussed above and according to my criteria is an example of conventional, systematic metaphor.

8.2.4 SHOULDER: summary and discussion

The following table summarizes the senses of **shoulder** found in the sample and gives numbers of each.

Table 8.1 Senses of SHOULDER, broken down by part of speech

Part of speech/ sense	Number of citations	Example
adjectival	13 (total)	
physical appearance of shoulders: non-metaphorical	13	If he is very depressed, he could look round-shouldered .
nominal	940 (total)	
non-metaphorical and dead metaphor	838	He'd sing with a parrot on his shoulder . A few moments later, the car really does lurch towards the hard shoulder .
dead metaphor (‘classical idiom’) have a chip on one’s shoulder	10	I didn't like it, maybe I had a bit of a chip on my shoulder .
dead metaphor (‘classical idiom’) cold shoulder	7	Her book is chilling in its description of what it feels like to be given the cold shoulder by Hollywood.
total non-metaphorical and dead metaphor	855	

conventional, systematic metaphor 'upper part of a physical structure'	1	The hut was set on a shoulder of the lower slopes of a mountain
conventional, systematic metaphor 'place where responsibility, debt, blame is felt'	31	Debt can seem like an unbearable load on your shoulders .
conventional, systematic metaphor be head and shoulders above someone	6	I think David Lloyd is head and shoulders above everyone else that operates in that lifestyle kind of business.
total conventional metaphor	38	
metaphorical metonym 'emotional support'	10	They have been at the end of a phone, or a shoulder to cry on .
metaphorical metonym 'have contact with'	26	The most learned scholars rubbed shoulders with young graduates.
metaphorical metonym 'supervise'	6	And you've got to get on with things without someone looking over your shoulder .
metaphorical metonym 'observe warily'	5	American retailers in particular are looking anxiously over their shoulders at a new threat in their own backyard.
total metaphorical metonym	47	
total conventional metaphor and metaphorical metonym	85	
verbal	47 (total)	
non-metaphorical	2	Then he shouldered his way through the soldiers...
dead metaphor: one-shot cold-shoulder 'classical idiom'	6	I'm not being cold-shouldered , but I'm not exactly being welcomed with open arms either.
total non-metaphorical and dead metaphor	8	
conventional metaphor: systematic 'responsibility'	39	Other hospitals are being required to shoulder similar risks.
total conventional metaphor	39	

I now summarize the main points that emerge from this syntactic study of metaphorical and non-metaphorical uses of **shoulder/s/ed/ing**.

- Conventional metaphorical uses of nominal **shoulder** total 38 citations, or 4 percent of all nominal uses.
- Conventional metaphorical uses of verbal **shoulder** total 39 citations, or 83 percent of all verbal uses. The conventional metaphorical sense accounts for a far higher proportion of verbal than nominal uses.
- For nominal **shoulder**, metaphorical metonyms account for 47 citations. Nominal metaphorical metonyms are more frequent than nominal conventional metaphors.
- **Shoulder** is not used as a verb in a metaphorical metonym in the sample.
- Metaphorical verbal **shoulder** does not appear to have a corresponding non-metaphorical sense; there is no evidence that phrases such as ‘He shouldered a sack of potatoes’ occur at all frequently in current English.

It seems that in the metaphorical mapping from the source domain of the human body to the abstract domains of responsibility, **shoulder** has also changed syntactically. In the source domain it is used almost exclusively as a noun while in the target domain the verb use accounts for around a third of all citations.

However this shift does not occur in the metonymic mapping from the human body to the domain of emotional support, lexicalised in expressions such as **cry on someone’s shoulder**, and in the metaphorical metonyms **rub shoulders with** and **look over someone’s shoulder**. There are no verbal uses in the data which seem to be closely related, collocationally or semantically, to any of these metaphorical metonyms. From this evidence it seems that metonymic mapping

leads to linguistic expressions which are stable grammatically. This could be seen as a circular argument, in that one of my criteria for defining metaphorical metonyms is that there is some ambiguity between their literal and non-literal senses. Metaphorical metonyms always have some element of literal reference because they work by referring to a concrete aspect of an abstract experience. This makes a grammatical shift very unlikely or even impossible. For instance, **cry on someone's shoulder** gains its non-literal meaning of 'ask for sympathy' through its literal reference to physical contact. A grammatical shift, such as the development of an adjective **shoulderish**, meaning 'sympathetic', might rule out the possibility of literal interpretation. The resulting linguistic expression would then no longer be a metaphorical metonym but another type of expression.

8.3 CORPUS STUDY 33: HEART

8.3.1 Methodology

The entire concordance of **hearted**, and a combined sample of 1000 citations of **heart** and **hearts** were examined in order to ascertain the relative frequencies of literal and the various types of non-literal senses of each form. The concordance of **heart** was also examined, and showed that the distribution of various types of senses was not significantly different from that of **hearted**. Because of this it is not discussed separately here. No examples of dead or innovative metaphor were found in any of the concordances. The concordance of **heart** and **hearts** contained some proper names and ambiguous citations. I begin by discussing **hearted**, and then consider differences between **hearts** and **heart** and between the count and

uncount uses of **heart**.

8.3.2 Adjective use of HEART

All citations of the concordance of **hearted** in the 2700 citation concordance studied were metaphorical. In each case, **hearted** combines with an adjective or, occasionally, a noun such as **stone** or **lion**, to produce a compound adjective. The adjective formed describes an emotional or mental quality. The most frequent adjectives produced in this way, their frequencies, and the type of emotional or mental property described are given in the following table.

Table 8.2 Most frequent left collocates of ‘hearted’

compound adjective	frequency in 2700 citations of hearted	Frequency as a percentage of citations of hearted	emotional/mental property
light-hearted	555	23	(lack of) SERIOUSNESS
half-hearted	463	19	(lack of) COMMITMENT
faint-hearted	199	8	(lack of) COURAGE
warm-hearted	125	5	KINDNESS
kind-hearted	123	5	KINDNESS
big-hearted	97	4	KINDNESS
broken-hearted	97	4	(lack of) HAPPINESS
good-hearted	90	4	KINDNESS
whole-hearted	87	4	COMMITMENT
cold-hearted	74	3	(lack of) KINDNESS
hard-hearted	74	3	(lack of) KINDNESS
soft-hearted	57	2	KINDNESS

It is interesting to note that **hearted** combines with other adjectives which are themselves used metaphorically, and which are generated by a different conceptual metaphor (this phenomenon is observed in some idioms by Kövecses and Szabo 1996: 344). Examples in the above table include **light**, **warm**, **broken** and **soft**. Intuitively, these expressions do not seem to create the jarring impression or confused images often conventionally associated with mixed metaphors, which suggests that they are well-established, a point backed up by their frequency in the corpus. This in turn demonstrates the degree to which

hearted is established as a linguistic metaphor.

This shows that **hearted** has an independent lexical meaning and is not especially restricted in its collocates. These features were also found in the case of verbal **shoulder**, demonstrating that lexical items which evolve through the combination of a metaphorical mapping and syntactic shift can become independently established.

8.3.3 Noun use of HEART: main sense divisions

Whereas the adjectival use of HEART occurs exclusively in conventional metaphors, the noun forms **heart** and **hearts** are also used non-metaphorically. The frequencies of non-metaphors, conventional metaphors and other uses in a 1000 citation concordance extract of **heart** and **hearts** are given in the following table.

Table 8.3 Senses of nominal ‘heart(s)’

Status as metaphor	Frequency in 1000 citations	Example
Non-metaphor: heart of a human or animal, representation of a heart	413	Most of us think that a heart attack is something that happens to someone else.
Conventional one-off metaphor: memory: by heart	5	Each Druid was required to learn by heart the whole of their law [and] teachings.
Conventional one-off metaphor: lonely heart	6	Female lonely hearts , by contrast, tend to prefer men who are about five years older than themselves.
Conventional one-off metaphor: centre	57	Tight security surrounded the court complex in the heart of the cathedral city of Winchester.
Conventional one-off metaphor: feelings, emotions, happiness	173	There was no sign of him and her heart sank. It broke her heart to see him go.
Conventional one-off metaphor: compassion	21	My heart goes out to her.
Conventional one-off metaphor: character	18	It afforded a glimpse of a forgiving, open mind, and a very kind heart .
Conventional one-off metaphor: loyalty	7	In every new job I have ever had, it concerned me about winning hearts and minds of people because you can only ever do anything with the support of people.
Conventional one-off metaphor: container for emotions	57	They have a special place in each others' hearts . It is not a person's gender that fits them to be a minister, but what is in their hearts .
Conventional systematic metaphor: seat of most deeply-held beliefs, essence	142	All women love brutes at heart . [This] was at the heart of protests three years ago.

Conventional systematic metaphor: courage, encouragement	27	That will put some heart into her. Although Flowers produced a wonderful save [...], Keegan's team took heart from going so close.
Metaphorical metonym: emotion of panic	5	Manager Stewart Houston admitted his heart missed a beat as Wright was carried behind the goal for treatment.
Names and ambiguous	69	Celtic then meet Aberdeen, Rangers and Hearts in successive matches.

Citations were divided into separate senses using the criteria for polysemy outlined in Chapter Three. The subjectivity of this analysis is acknowledged; as Moon comments, the analysis of meaning is inevitably dependent on intuition and introspection and ‘even hard evidence does not rule out pluralities and diversities of analysis’ (1987a: 86). The division of meaning in this table is unlike that of most dictionary entries for **heart** because, clearly, this analysis is different in its objectives from the type of sense division carried out by lexicographers. Because of these differing objectives, the analysis runs together some uses that for pedagogic reasons might be treated as separate senses in some learners’ dictionaries. Conversely, one sense distinction which might be considered trivial by some analysts is made here: **heart** as used in the citation

It is not a person’s gender that fits them to be a minister, but what is in their **hearts**. (heart = container for the emotions)

has been separated from **heart** as used in

It broke her **heart** to see him go. (heart = feelings, emotions, happiness)

because the conceptual metaphor HEART = CONTAINER FOR EMOTIONS,

which underlies the first citation, seems distinct from HEART = EMOTIONAL STATE, which underlies the second.

In the above table, senses have been categorised as non-metaphorical and as conventional metaphors following the categorisation described in Chapter Four. Conventional metaphors have been described as systematic or one-off depending on whether there is corpus evidence that other lexis from the domain of the human body is mapped onto the same target domain. In most cases there does not seem to be such evidence. However two senses were judged to be systematic metaphors: **heart** = ‘seat of most deeply-held beliefs, essence’ on the basis of similar uses of lexis such as (feel something in one’s) **bones** or **guts**, and **heart** = ‘courage, encouragement’ on the basis of a similar use of **guts**. Even these two mappings seem rather limited and therefore not uncontroversial examples of metaphorical systems.

It is not easy to separate metaphorical metonyms from on the one hand, literal senses of heart and on the other, metaphorical senses. The criterion described in Chapter Two was used, so that citations classified as metaphorical metonyms are those where the use of **heart** has a literal bodily interpretation, but appears also to refer to an emotional sensation closely associated with the bodily sensation it describes.

8.3.4 Singular and plural forms of HEART

Citations of the senses identified above have been separated into singular and

plural forms of HEART, and it emerges that the numbers of citations for each sense are not always proportionate to the overall frequencies of each form. This is shown in the following table. The number of citations of **heart** for each sense is given in column 3, and for **hearts** in column 5. The number of citations of **heart** for each sense as a percentage of the total number of citations of **heart** is given in column 4. The number of citations of **hearts** for each sense as a percentage of total citations for **hearts** is given in column 6. When columns 4 and 6 (shaded) are compared, it can be seen that the relative frequencies of some senses of **heart** and **hearts** are notably different.

Table 8.4 Senses of nominal ‘heart(s)’, broken down into singular and plural inflections

1. Sense	2. total citations of heart/ hearts	3. total citations of heart	4. Figure in 3 as a percentage of total citations of heart	5. total citations of hearts	6. Figure in 5 as a percentage of total citations of hearts
Totals	1000	886	100	114	100
Non-metaphor	413	398	46.6	17	14.9
heart of a human or animal, representation of a heart	413	398	46.6	17	14.9
Conventional Metaphor	513	437	49.3	79	69.2
memory: by heart (one-off)	5	5	0.6	0	0
lonely heart (one-off)	6	0	0	6	5.2
centre (one-off)	57	57	6.4	0	0
feelings, emotions, happiness (one-off)	173	151	17	22	19.3
compassion (one-off)	21	19	2.1	2	1.8
character (one-off)	18	16	1.8	2	1.8
loyalty (one-off)	7	2	0.2	5	4.4
container for emotions (one-off)	57	29	3.2	28	24.6
seat of most deeply-held beliefs, essence (systematic)	142	131	14.8	14	12.3
courage, encouragement (systematic)	27	27	3	0	0
Metaphorical Metonym					
emotion of panic	5	5	0.5	0	0
Other	69	51	5.8	18	15.8
proper names and ambiguous	69	51	5.8	18	15.8

The table shows that the singular form is more likely to be used non-metaphorically than the plural, the non-metaphor accounting for 44.9 % of singular forms and only 14.9% of plurals, and that conversely the plural form **hearts** is more frequently used in a metaphorical sense than the singular.

Some senses are unique to either the singular or plural form, which seems in most cases to be due to their appearing in a fixed expression, such as **by heart**, or in a regular collocation, such as **lonely hearts (column)**. In some cases a sense is not unique to either the singular or the plural form but is used a good deal more frequently in one form than in the other. This is the case for the ‘container for emotions’ sense of **heart**, where the plural form is a good deal more frequent. The metaphorical meaning alone does not seem to be sufficient to explain these patterns. To account for them it may be necessary to postulate an idiom principle (Sinclair 1991), as discussed in the previous chapter.

8.3.5 Heart as a count and uncount noun

While intuitively it seems possible that uncount **heart** can be used non-metaphorically, in for example, the sentence ‘They ate some lamb’s heart’, in fact the uncount use of non-metaphorical **heart** is rare, as it does not occur in this sample of 1000 citations of **heart(s)**. However, where **heart** is a conventional metaphor, 64 citations of the uncount noun use were found. In some cases these are fixed expressions. These include **by heart** (‘committed to memory’) (5 citations), **change of heart** (9 citations) and **at heart** (‘fundamentally’) (19 citations). Uncount **heart** also appears as a freely combining lexical item in

citations such as the following:

He'll bring **heart** and guts to the team.

There's not so much **heart** in farming today.

Where **heart** is used as above, to mean 'courage' or 'commitment', it seems logical that it should be an uncount noun, following the pattern of most other words for mental and emotional qualities. In this case the meaning of the metaphorical sense seems to account for its syntactic divergence from the non-metaphorical sense.

8.3.6 HEART: summary and discussion

Here I summarise the main points that have emerged from this examination of HEART.

- 100% of citations of **hearted** are conventional metaphors. The sense has independent, established meaning.
- Conventional metaphorical uses of **heart** and **hearts** account for 51.6% of citations of the word forms. The proportion of metaphors to non-metaphors is a good deal higher for the plural **hearts** (44.9%) than for the singular **heart** (14.9%).
- Each of the singular and plural noun forms of HEART appears in at least one metaphor that is not shared by the other form. For some senses, both singular and plural forms can be used, but even in these cases, one form is often a good deal more frequent than the other.

- **Heart** only appears in the sample as an uncount noun when it is used as a conventional metaphor; its non-metaphorical use is always count.
- Metaphorical **heart**'s status as a systematic or one-off metaphor does not seem to be related to the syntactic patterns discussed here.

As was found in the previous study, of SHOULDER, there seem to be associations between certain syntactic patterns and senses of the lexeme which are not entirely predictable.

8.4 CORPUS STUDY 34: SHRED

8.4.1 Methodology

Citations of the forms **shred**, **shreds**, **shredded** and **shredding** were examined in a concordance extract of 1000 citations. These were separated into verbal and nominal senses, and then nouns were separated into singular and plural. Citations were divided into non-metaphors and instances of a systematic conventional metaphor. There were no instances of dead metaphor or of innovative metaphor. The systematic conventional metaphor maps the domain of cloth onto abstract entities and is linguistically realised in lexis such as that in bold in the following citations:

It took every last **shred** of my **tattered** nerves.

... the economic and social **fabric torn to shreds** by dictatorial one-party rule.

In the cases of SHOULDER and HEART, one grammatical category, the noun, is

closely identified with the core sense, part of the human body. For SHRED this is not the case. Psychologically, both verb and noun seem potentially core, and it is also unclear which is historically prior according to the *Shorter Oxford English Dictionary* (Little *et al.* 1973). As neither noun nor verb is associated more strongly with the non-metaphorical use, it cannot be argued that the metaphorical mapping of SHRED is associated with any particular syntactic shift. However, there are significant differences in the frequencies of each grammatical form as a metaphor, which do not seem to be accounted for by meaning.

8.4.2 SHRED: verb and noun

The following table shows the numbers of conventional metaphors and non-metaphors in the noun and verb uses of SHRED.

Table 8.5 Senses of SHRED, broken down by part of speech

Part of speech/ sense	Number	Example
Verbal		
non-metaphorical	509	Mrs Paul, 42, told him how she wept when handing over to opposition lawyers documents which she was supposed to have shredded .
metaphorical	60	Now, their nerves shredded and their officers mostly dead, they gave ground.
Nominal		
total non-metaphorical	175	Serve the potatoes in one bowl, garnished with shreds of ham.
total metaphorical	256	So far, we haven't found a shred of evidence to support that idea.
Total	1000	

It can be seen from this table that the conventional metaphorical sense accounts for a far greater proportion of citations of the noun than of the verb. There does not seem to be an obvious reason for this in terms of the meanings of each sense. An examination of citations shows that two established patterns account for the frequency of the non-metaphorical verb use and the metaphorical noun use respectively. The non-metaphorical verb use appears regularly in texts such as recipes and other types of instruction. The metaphorical noun use has regular collocates in the immediate left slot such as **last** and **remaining**, and in the slot two words to the right, regular collocates such as **evidence** and **conviction**, both sets of collocations occurring with a frequency that suggests cliché. Although these two patterns seem to explain the data, neither pattern is explained by the decontextualised meaning of SHRED, and it seems that a tendency to fossilization or chunking of these collocations must be recognised.

8.4.3 Shred: singular and plural forms

The citations of nominal **shred(s)** were separated into singular and plural inflections, and the number of instances of non-metaphor and conventional metaphor in these were counted. The following table gives the results.

Table 8.6 Senses of nominal ‘shred(s)’, broken into singular and plural inflections

1. form	2. total in 1000 citations of SHRED	3. non-metaphorical	4. Figure in 3 as a percentage of 2	5. meta-phorical	6. Figure in 5 as a percentage of 2
shred	162	27	17%	135	83%
shreds	269	148	55%	121	45%

It can be seen that the metaphorical sense is approximately five times as frequent as the non-metaphorical sense when **shred** is singular, but slightly less frequent than the non-metaphorical sense for the plural form. Examination of citations of metaphorical singular **shred** shows that this often occurs in expressions such as ‘There was no a shred of ...’ and ‘Without a shred of ...’, which seem to account for the disproportionate frequency of this metaphorical use. There seems to be no logical reason why the plural could not occur in such a construction. For example, sentences such as ‘They presented several shreds of evidence’ seem semantically possible, but on the evidence of this data they are extremely rare. It seems again that an idiom principle is needed to account for these patterns of distribution.

8.4.4 SHRED: summary

The main points that emerge from this study of SHRED are as follows.

- SHRED is far more likely to be used metaphorically when it is a noun than when it is a verb.
- The conventional metaphorical use accounts for a far higher proportion of the singular noun uses of SHRED than for the plural noun uses.
- Neither of the above points seems to be accounted for by the meanings of SHRED.

8.5 SUMMARY OF STUDIES 32, 33 AND 34

In this section I summarise the main points arising from the above analyses.

- In the cases of both HEART and SHOULDER, whose literal senses are prototypically nouns, metaphorical senses may be other parts of speech. In the case of SHOULDER metaphorical senses are frequently verbs. In the case of HEART, there is an adjectival use that is restricted to the target domain. (It is not possible to detect such patterning for SHRED as neither the verb nor the noun is obviously prototypical of the literal sense.)
- Metaphorical senses may differ from the literal in more delicate syntactic behaviour. For instance, the noun **heart** tends to be count when literal and uncount when metaphorical. In the case of nominal **heart** and **shred**, the proportions of metaphor and non-metaphor in singular and plural inflections are markedly different.
- Uses resulting from a metaphorical mapping accompanied by a syntactic change are not always collocationally or syntactically fixed, nor are they

infrequent. The analysis of **hearted**, verbal **shoulder** and uncount **heart** shows them to be fairly freely-combining forms which occur frequently enough in the corpus to be regarded as conventionally established in the language.

- Where the figurative transfer seems more likely to be metonymically than metaphorically grounded, as in the case of some senses of **shoulder**, syntactic differences between literal and non-literal senses are much less likely to emerge.
- No syntactic patterns emerge as associated particularly with either one-off or systematic metaphors.
- In the cases of both SHOULDER and HEART different metaphorical senses seem to have different preferred syntactic realisations. This cannot always be easily accounted for by their meanings.
- In the case of SHRED the proportions of metaphor and non-metaphor in noun and verb uses are significantly different in a way which does not seem to be accounted for by the decontextualised meaning of the lemma.

In some cases an examination of meaning can account for differences in syntax between metaphor and non-metaphor, as in the case of uncount **heart**. However in the majority of cases of syntactic difference found in these studies, the decontextualised meaning of the senses involved does not seem to provide an explanation. This has also been found to be the case for a number of other lexemes studied, such as **blow**, which was discussed in terms of its collocational properties in the previous chapter.

8.6 SYNTAX AND METAPHORICAL MAPPING: ANIMALS

In this and the following sections I describe two wider studies (Studies 35 and 36) which attempt to cover the syntactic behaviour of most of the frequent lexicalisations of a metaphorical mapping. These mappings have been chosen partly because they are examples of well-known metaphorical mappings and also because in the source domain the most psychologically core items are from different parts of speech. In the case of animals, the lexical items examined are nouns, in the case of cooking, verbs.

The mapping of lexis for animals onto the domain of human behaviour is well-known (noted for example by Ullmann 1962 and Waldron 1967). However, discussion of this area tends to include examples of innovative metaphors, or at least those that are infrequent in non-literary texts, such as **serpent** and **vixen** (Waldron 1967: 184). Further, such discussion has generally been based on introspective data. An exception is work done by Goatly, who uses naturally-occurring texts to study a number of metaphors from the source domain of animals (1997). While his work forms a useful starting point for my purposes, further investigation is necessary as I am concerned here only with conventional metaphors for which corpus evidence can be found.

8.6.1 Methodology

Concordances of nouns from the source domain were examined, and conventional

metaphors in the target domain of human characteristics were identified. Lexical items related by word-formation rules to the source domain nouns were also studied. Because archaic terms such as **swine** are never or rarely used in their original sense in the corpus, they are considered to be non-metaphorical and so were not included in this study. Superordinate terms for animals, such as **beast**, are not included here. This study looks at word types only, and does not include frequencies of each form.

8.6.2 Syntax in non-metaphorical and metaphorical lexis from the source domain of animals

The following tables show the source domain items studied, their form(s), including derived forms, as conventional metaphor, their part(s) of speech when a metaphor and examples of metaphorical use. The items have been divided into groups depending on the part(s) of speech of the conventional metaphor.

Table 8.7 Syntax in non-metaphorical and metaphorical lexis from the source domain of animals

non-metaphorical item	part of speech	conventional metaphor	part of speech	example of metaphor
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Noun as conventional metaphor

dog	noun	dog	noun	...an old dog
cow	noun	cow	noun	What the hell does the silly cow think she's doing?

Noun and adjective as conventional metaphors

cat	noun	1. cat 2. catty	1. noun 2. adj	1. ...a bunch of fat cats with fast cars. 2. ... catty remarks.
kitten	noun	1. kitten 2. kittenish	1. noun 2. adj	1. ...a blonde sex kitten . 2. She was playful, innocent and kittenish .
sheep	noun	1. sheep 2. sheepish	1. noun 2. adj	1. We're not political sheep . 2. He gave them a sheepish grin.
mouse	noun	1. mouse 2. mousy	1. noun 2. adj	1. I always thought her a mouse . 2. ...the mousy little couple.
shrew	noun	1. shrew 2. shrewish	1. noun 2. adj	1. ...a tyrant and a shrew . 2. ...a shrewish look.

Noun and verb as conventional metaphors

pig	noun	pig	1. noun 2. verb	1. ...a bunch of racist pigs . 2. He had probably pigged out in a fast-food place.
wolf	noun	wolf	1. noun 2. verb	1. <He> is something of a lone wolf . 2. I gratefully wolfed down the food.
monkey	noun	monkey	1. noun 2. verb	1. She's such a little monkey . 2. Not a day goes by without him getting in and monkeying with something.
rat	noun	rat	1. noun 2. verb	1. <He> was a thieving rat . 2. Good friends don't rat on each other.

Noun, verb and adjective as conventional metaphors

fox	noun	1. fox 2. fox 3. foxy	1. noun 2. verb 3. adj	1. You sly old fox . 2. Experts are going to be completely foxed by this one. 3. That is one foxy lady.
bitch	noun	1. bitch 2. bitch 3. bitchy	1. noun 2. verb 3. adj	1. I'm very sorry I was a bitch . 2. She bitched about Dan. 3. I was bitchy .

Verb only as conventional metaphor

horse	noun	horse	verb	I was horsing around with Katie.
weasel	noun	weasel	verb	A buyer will not usually be able to weasel out of these promises later.
ferret	noun	ferret	verb	O'Connor was the person who ferretted out the truth.
hound	noun	hound	verb	He was hounded out of his job.
hare	noun	hare	verb	He went haring round to her flat.
squirrel	noun	squirrel	verb	... as consumers squirrel away huge sums for the downpayment on a home.
ape	noun	ape	verb	He apes their walk.

Adjective only as conventional metaphor

tiger	noun	tigerish	adj	... tigerish determination
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The above tables suggest that for this semantic field at least, syntactic change between non-metaphors and conventional metaphors is the norm rather than the exception. Only two items are unchanged syntactically when used with metaphorical meaning. In eleven cases, the source domain noun is used metaphorically and is supplemented with derived forms, either adjective, verb or both. In the remaining eight cases, the source domain noun is not used as a conventional metaphor; and the metaphorical use is restricted to another part of speech, a verb in most cases.

It can be argued that syntactic change between non-metaphorical and metaphorical senses of animal lexis is accounted for by the semantics of the

metaphorical sense. The target domain is that of human characteristics and behaviour, and it therefore seems that adjectives and verbs might be more natural forms than nouns to express the meanings of the metaphorical senses: descriptions of personalities are prototypically expressed using adjectives, and accounts of behaviour and actions using verbs. However this hypothesis does not seem to explain why it is that different lexical items undergo different types of syntactic transformation. For instance it does not explain why in some cases the noun remains available as a metaphor for a personality type while it disappears in others, or why in some cases the metaphorical sense typically takes the form of a verb while in other cases it is typically an adjective.

8.7 SYNTAX AND METAPHORICAL MAPPING: COOKING

Verbs used to talk about methods of cooking have metaphorical senses realising several conceptual metaphors, including IDEAS ARE FOOD, realised by **half-baked** (Lakoff and Johnson 1980) and ANGER IS HEAT (Lakoff 1987a). Here source domain verbs which appear to realise ANGER IS HEAT are considered.

8.7.1 Methodology

Concordances of base forms and inflections of verbs from the source domain were examined, and conventional metaphors in the target domain of anger and angry behaviour were identified. Lexical items related by word-formation rules to the source domain verbs were also looked for but no examples of these were found.

8.7.2 Syntax in metaphorical and non-metaphorical lexis from the source

domain of cooking

The following table shows the source verbs studied, their form(s) as conventional metaphor, their part(s) of speech when a metaphor and examples of metaphorical senses.

Table 8.8 Verbs from the source domain of cookery used as metaphors

non-metaphorical item	part of speech	conventional metaphor	part of speech	example of metaphor
boil	verb	boil	verb	I would be boiling with rage. Public indignation had boiled over.
stew	verb	stew	verb	Should I call him? No, let him stew .
simmer	verb	simmer	verb	...the row that had simmered during the summer.
roast	verb	1. roast 2. roasting	1. verb 2. noun	1. Mattie would have roasted him in front of all the others. 2. I have given him the biggest roasting of his life.
grill	verb	1. grill 2. grilling	1. verb 2. noun	1. The police grilled him for hours. 2. He now faces a tough grilling .

This table suggests that syntactic change is relatively rare when this group of verbs are used with metaphorical meanings. In each case the metaphorical meaning is principally realised by the same part of speech as the non-metaphorical meaning. The main syntactic variations in the target domain are the gerund forms **roasting** and **grilling**, which are non-existent or extremely rare in

the source domain, according to corpus evidence. These data seem to suggest that verbs are unlikely to change part of speech when used as conventional metaphors. Further evidence for this hypothesis was found in a study of lexical items such as **soar** and **plummet**, (in Deignan 1995) which are used to realise the conceptual metaphor UP IS MORE (Lakoff and Johnson 1980). Like the cooking metaphors discussed here, there is little grammatical variation between their non-metaphorical and metaphorical uses.

8.8 CONCLUSION

In the above studies I have looked at citations of non-metaphorical and metaphorical senses of a number of lexemes and I have studied their syntactic behaviour. I have looked at part of speech and also at more detailed distinctions, such as countability and singular and plural inflections.

In the case of items that are nouns when used in the source domain, I have found that metaphorical mapping is often accompanied by semantic shift to verbal or adjectival use. In some cases this seems to be because the target domain meaning is expressed more naturally by a verb or an adjective than by a noun. However this explanation does not seem to account for every semantic shift seen in the data, nor does it explain why some mappings exhibit such shifts while others, which might also be expressed more naturally by another part of speech, do not.

Other changes in syntax accompanying metaphorical mapping include a change in

the frequency of the singular and plural inflections and in count and uncount use. Again, in some, but not all cases, these patterns are explicable in terms of semantics.

Although the difference between systematic and one-off metaphors is regarded as extremely important by several writers (for example Lakoff 1986, Allbritton 1995), this distinction does not seem to be associated with syntactic changes, which occur as often with one-off as with systematic mappings. On the other hand, the limited evidence considered here suggests that the difference between metonymically-grounded and metaphorically-grounded mappings does correspond to the presence or absence of syntactic changes, metonymically-grounded mappings not exhibiting such changes.

The items studied are nouns in the source domain with the exception of the verbal use of SHRED and the group of words from the domain of cooking. The work discussed here clearly needs to be supplemented with more detailed case studies of items which are verbs and adjectives in the source domain, as, obviously, generalisations about metaphor and syntax cannot be made from the behaviour of nouns alone. This is especially important as the study of items from the domain of cooking suggests that verbs may be less prone to syntactic change. What this limited study does show is that metaphorical mapping is sometimes accompanied by syntactic changes which may be motivated but which do not seem to be predictable.

9. METAPHOR AND AFFECTIVE MEANING

9.1 INTRODUCTION

In Chapter Three I tried to distinguish pairs of senses such as **palace** = ‘dwelling of a royal family’ and **palace** = ‘beautifully-maintained dwelling’. In the first case I claimed that the denotation of the item was central to its meaning because the item has a clear, easily defined reference. In the second case, I claimed that understanding the evaluative force of the item is more central to an understanding of its meaning in context than its reference, which is relatively vague. I used the terms *denotative meaning* and *evaluative meaning* to convey this distinction. In this chapter I return to the notion of evaluative meaning, and consider specifically how it may be conveyed through metaphor.

Some writers hold that evaluative meaning is an important motivation for the development of metaphorical senses. In this view, many metaphors are created or chosen in order to evaluatively load a message. For instance Ullmann argues that metaphor is a major force in the lexicalization of emotive concepts. He writes:

... subjects in which a community is interested, which epitomise its fears, its aspirations or its ideals, will tend to attract synonyms from all directions and many of these will be metaphorical since metaphor is the supreme source of expressiveness in language. (1962: 202)

In this chapter I begin by considering what is understood by an evaluative component of meaning, and then discuss some general claims about evaluation

through metaphor. I go on to discuss two features of metaphor which seem to make it a particularly suitable vehicle for conveying evaluative meaning. I then examine the two major transference mechanisms by which, it is claimed, speakers encode evaluative meaning in metaphor, using corpus evidence to explore them.

9.2 AFFECTIVE MEANING

9.2.1 Affective meaning and word meaning

In the standard overviews of semantics it is generally recognised that denotation is not the only axis of meaning and that word meaning is multi-dimensional. Leech, for example, describes seven types of meaning of which ‘conceptual meaning’, the denotation of a word, is only one. Also included in his model of meaning are ‘connotative meaning’ and ‘affective meaning’ (1981). ‘Connotative meaning’ is the meaning a word has through speakers’ perceptions of its referent. For example, Leech claims that the word **woman** may have a connotative meaning of ‘subject to maternal instinct’, and that in the past its connotative meaning may have included attributes such as ‘cowardly’ and ‘irrational’ (p. 12). ‘Affective meaning’ reflects the emotions of the speaker. In Leech’s analysis, affective meaning is largely parasitic on conceptual and connotative meaning in that, he claims, speakers exploit conceptual and connotative meanings to create it.

Cruse identifies a type of meaning that conveys speakers’ feelings towards referents and towards each other, which he labels ‘expressive meaning’ (1986).

Osgood *et al.*’s seminal work in the analysis of meaning also recognises non-

denotative meaning. They proposed and piloted a system for the analysis of the meaning of words in which informants are asked to measure word meanings along a number of scales. One of the scales used is positive-negative, and the writers found that 'It has been feasible to identify 'attitude' as one of the major dimensions of meaning-in-general' (1957: 189).

The notion of evaluative meaning is found in other, related fields of study, such as in work which deals with the analysis and description of the meaning of specific words. In the tradition of componential analysis, for instance, Wierzbicka uses an evaluative component when she analyses words in the field of emotions and behaviour into semantic primes (1992). Similarly, in the field of lexicography, while definitions are phrased largely in terms of denotative meaning, it is not uncommon for them to be supplemented with notes indicating evaluative orientation, such as 'derog', indicating a negative evaluation, in the *Oxford Advanced Learner's Dictionary* (Crowther *et al.* 1995).

It seems very likely that different words combine elements of denotative and other meanings in different proportions. While for instance a word such as **bookcase** probably conveys little besides its denotative meaning to most speakers, Leech argues that some words, such as **democratic**, have almost entirely lost their original conceptual or denotative meaning and are used largely to express and evoke emotion (1981: 44).

An emotive component of meaning is important to the study of near-synonyms. It

is observed that some pairs or clusters of words exist ‘whose meanings differ only in that they express different evaluative judgements on their designated referents’ (Cruse 1986: 277). Cruse’s examples include the pairs **horse** and **nag**, and **smart alec** and **clever chap**. Waldron makes the same observation, contrasting pairs such as **eloquent** and **glib** and **reply** and **retort** (1967: 90). This is not to say that each item in a pair has an equal level of evaluative meaning. Sadock suggests that in pairs of this type one term may be neutral, only acquiring ‘an additional force in virtue of the fact that it stands in contrast to some connotatively non-neutral (or marked) lexical item’ (1993:48).

This phenomenon is recognised outside the specialist literature. Evaluative or emotive differences between words which have the same or similar referents have been discussed in the mainstream press. For example, a list of pairs of terms quoted by Hodge and Kress was originally published in the Guardian newspaper, which would suggest that speakers without specialist knowledge of language would be expected to recognise this feature of meaning (1993: 162). The terms were used during the Persian Gulf War in 1991, to refer to forces and actions on the Allied and Iraqi sides. The following is an extract from the list.

We have	They have
Army, Navy and Air Force	A war machine
Reporting guidelines	Censorship
Press briefings	Propaganda
We	They
Take out	Destroy
Suppress	Destroy
Neutralise	Kill
Our boys are	Theirs are
Professional	Brainwashed
Cautious	Cowardly
Loyal	Blindly obedient
Resolute	Ruthless
Brave	Fanatical

This type of loose synonymy, in which items are distinguishable largely on some emotive or evaluative grounds rather than by their referents, was not considered in the earlier discussion of metaphor and paradigmatic relations (Chapter Six). The relation between this type of synonymy and metaphor will be looked at in this chapter.

9.2.2 Evaluation by implication

The phenomenon which is discussed in this chapter is sometimes more complex than the use of single evaluatively loaded words. It is argued by a number of writers that metaphorical systems which are created by the transference of several lexical items from the same source domain may be manipulated to evaluate the topic. For example, Reddy's (1993) and Schon's (1993) seminal analyses reveal

the roles which conceptual metaphors play in structuring their topics (discussed in Chapter One). Both writers argue that a conceptual, linguistically systematic metaphor may present a biased view of its topic. In Schon's example, the conceptual metaphor of disease for the inner-city is expressed through such linguistic metaphors as **cure**. This lexical item might not be considered to have an evaluative bias in its non-metaphorical sense, but when used metaphorically it evaluates by implying the existence of a 'disease': traditional inner-city housing. In such cases it is difficult to trace evaluation in a lexical item without considering the metaphorical system as a whole.

A number of terms used by different writers to describe evaluative meaning have been mentioned. Terms such as 'connotative' and 'associational' are traditionally associated with the meaning of words in isolation and because of this they do not seem broad enough to include the range of phenomena to be considered here.

'Evaluative' also seems unsuitable as a description of some metaphorical meanings because it implies an overt judgement. Rather than any of these terms then, Leech's term, 'affective meaning' (1981) will be used here to refer to elements of emotive, evaluative meaning conveyed by lexical items either by virtue of their connotations, by metaphorical exploitation of the type described by Reddy and Schon, or through any other mechanism.

9.2.3 Determining affective meaning using concordance data

In order to discuss the affective meaning of metaphors in use it is necessary first to identify the affective meaning of individual lexical items. Judgements about the affective meaning of a decontextualised word are dependent on intuition and are not replicable. However, it seems that studying the co-text of a word in a number of authentic citations can sometimes produce reasonably reliable judgements of affective meaning. For instance, it was shown in Chapter Three that regular collocates can provide a strong clue to the affective meaning of a word (Lowe 1993, Stubbs 1996). Some structural and textual patterns can also help. I now discuss these patterns, proceeding from analysis at the level of words to the level of clauses, and finally to texts.

At the level of words, the affective meaning of adjectives can often be traced when they regularly occur in adjectival phrases with another adjective. If one adjective is regularly co-ordinated using **and** with adjectives which evaluate explicitly, it can be assumed that the first adjective is at least affectively neutral and more probably evaluates in the same direction as its regular collocates. For instance, **warm** regularly appears after **nice and**, which suggests that **warm** shares the positive orientation of **nice**. Similarly, one of the most frequent adjectives to appear after **slim and** is **elegant**, which provides evidence for the contention that **slim** has positive affective meaning. From the same semantic field as **slim**, **emaciated** collocates with **malnourished** and **bony**, which strongly suggests that it has negative affective meaning. Collocational patterns realised in adjectives and post-modifying prepositional phrases can help to establish the

affective meanings of nouns. For instance, the metaphorical sense of **engine** seems to have positive affective meaning as the prepositional phrases which typically post-modify it contain references to benefits rather than to negative consequences. The following citations are typical.

Adapting foreign technology can no longer serve as a main **engine of growth**.

The worst-affected areas will be small businesses, the main **engine of job creation**.

The affective meanings of verbs can be identified by their typical subjects and objects. For instance, the subject of metaphorical **blossom** is typically an entity such as **romance** or **friendship**, which is regarded positively, suggesting that **blossom** itself shares this orientation. Louw gives a number of examples of concordanced data where it is possible to trace negative or positive collocational patterns (1993).

At the level of clause, structures which might suggest a particular kind of affective meaning include clauses describing purpose, such as **how to stay** or **to avoid**. The positive affective meaning of **slim**, and the negative affective meaning of **bloat** can be demonstrated by the frequency in the corpus of expressions such as **how to stay slim** and **to avoid bloating**.

At the textual level, the purpose of a text, combined with an analysis of its structure, can also give clues as to affective meaning. For instance, texts which are designed with the intention of persuading might be expected to contain words

which have particular types of affective meanings. If the text is designed following a well-known structure such as problem-solution (Hoey 1983), affective meaning can be assigned reasonably reliably. For instance, an advertisement would be expected to describe the product it advertises in a positive light and competitors' products in a negative light. If it follows a problem-solution structure, negatively-evaluating lexis would be expected in the description of the problem which the product alleviates, and positively-evaluating lexis in the evaluation of the solution provided by the product. Applying this to the analysis of advertisements for skin care products (from *Marie-Claire*, June 1997) suggests that in this context, **oily** has negative affective meaning and **radiant** has positive affective meaning, as the first is used in a description of the problems a product is designed to alleviate, and the second in a description of the effects of a product .

In the studies described in following sections, I have attempted to establish affective meaning by identifying typical collocational patterns, structures and wider context as described here, supplemented with intuition. It is recognised that even regularly occurring linguistic patterns cannot provide conclusive proof of affective meaning, which exists in the minds of language users.

9.3 THE CHOICE OF METAPHOR AS AN EVALUATIVE DEVICE

9.3.1 The popularity of metaphor as an evaluative device: observations in the literature

It has been noted by several writers that the grounds for much metaphorical transference are affective rather than denotative. Morgan has gone so far as to claim that in the case of metaphors found in general conversation, an affective value is the salient property (1993). This point is made by other writers, often using examples of animal metaphors. Kates, for example, considers the much-discussed ‘Man is a wolf’ and points out that this does not ‘denote some objective similarity between man and wolf’ (1980:212). Rather, it is the connotation of viciousness that is attached to the literal meaning of ‘wolf’ which is transferred to the topic. Allen and Burridge note the number of lexical items from the semantic field of animals which are used as dysphemisms. Negative connotations of specific animals are transferred metaphorically to the topic, which is a human being who the speaker wishes to insult (1991). Waldron also claims that for many animal metaphors the grounds for transfer are an emotional response, for example ‘**dog, bitch, or beast**, which are [...] almost purely evaluative terms’ (1967:184)

Studies of the language of advertising frequently emphasise the role of metaphor in creating affective meaning (for example, Cook 1992, Tanaka 1994).

Advertisers and manufacturers can do this by choosing a word whose literal meaning has favourable connotations, on the assumption that these connotations

will be evoked when the word is used in another context. Several writers note that the names of perfumes often seem to be chosen on this principle. Cook argues that the name 'Opium' was chosen for a perfume on these grounds. He points out that a word such as 'morphine', which has a similar denotative meaning, would be a far less likely choice because of its unglamorous connotations of medicine.

'Opium', he claims, was chosen for its connotations of 'the nineteenth century, the Orient, dreams, Romantic poetry, and bohemian illegality' (1992: 106). To demonstrate a similar point, Vorlat asked informants what the names of perfumes evoked for them, and concluded that the names metaphorically signalled certain qualities, qualities which the manufacturers probably wished the public to associate with the scent (1985).

Advertisers also create affective meaning by using conceptual metaphors. Tanaka shows how an investment company uses the systematic metaphor of plants to imply that customers' money will grow as rapidly and surely as a vigorous plant, an image which is presented visually as well as by using linguistic metaphors (1992).

It is not suggested that metaphor is the unique vehicle for affective meaning. On the contrary, it has been argued that a number of non-metaphorical words have affective meaning through their connotations. Other non-metaphorical mechanisms for the encoding of affective meaning include presuppositions (Green 1989, Stubbs 1996) and modality (Stubbs 1986, 1996). However metaphor has two properties which make it especially useful as a vehicle for affective meaning:

it seems to create intimacy between speaker and listener and it is off-record.

These properties are now discussed.

9.3.2 Reasons for the choice of metaphor to convey affective meaning:

intimacy

In the extensive literature on the comprehension of metaphor, it is generally agreed that in order to comprehend an innovative metaphor, the listener needs to establish the grounds for the metaphorical transference. Tourangeau and Sternberg review a number of theories of metaphor comprehension which differ importantly in other respects but are agreed on that point (1982). For example, in order for readers to interpret the sentence ‘The powerful enemy UV [ultraviolet rays] is beaten’ from a Japanese advertisement for a skin-care product (Tanaka 1994: 91), they have to re-encode their understanding of skin care in the light of the metaphor of war, which involves tracing the grounds for the transfer. This process may involve reconceptualising the sun as an attacker and the skin as an area which needs to be defended, and, in both instances, recognising features common to topic and vehicle.

Cohen argues that searching for the grounds of a metaphor forces readers or hearers to align themselves, albeit temporarily, with the writer or speaker. He claims that in using a metaphor, a speaker invites the hearer to speculate about the speaker’s values and attitudes and about their shared knowledge. This is difficult unless speaker and hearer share some knowledge of each other: ‘...a figurative use can be inaccessible to all but those who share information about one another’s

knowledge, beliefs, intentions and attitudes' (1979: 9). In his view, the use of metaphor thus 'constitutes the acknowledgement of a community' (p. 6).

The above arguments concern the interpretation of innovative metaphors. It is also claimed that the use of conventional metaphors creates intimacy; not, as above, through the effort expended on interpretation, but through recognising shared cultural references underlying conventional metaphors. Gibbs and Gerrig (1989) argue that while the process of conventional metaphor comprehension is not special, the product is. This is because conventional linguistic metaphors are interpreted through and refer to shared knowledge of stereotypes and schemata which are not explicitly stated at any point in the text. For example, the use of a linguistic metaphor such as 'Their marriage is on its last legs', realising the conceptual metaphor LOVE IS A PATIENT (Lakoff and Johnson 1980: 49), refers to a perception of love which is common to the culture of speaker and hearer. Gibbs and Gerrig believe that because of this, metaphor has a 'significant role [...] in maintaining social and personal relationships' through 'speakers' and listeners' exploitation, even celebration, of their common ground' (1989: 156).

The Italian politician Silvio Berlusconi used metaphor to create intimacy between himself and the public by choosing political metaphors from the source domain of football, a topic of great interest to a large section of the population. The choice of metaphor reinforced the notion that Berlusconi, who was himself the manager of a successful football team, shared the popular interests of the public (Semino and Maschi 1996).

It seems that both innovative and conventional metaphors, through different mechanisms, have a role in enabling speakers to share each other's world views, at least for a short time. Speakers may exploit this potential, consciously or otherwise, as a persuasive device. The capacity of metaphor to create intimacy thus contributes to its effectiveness for transmitting affective meaning.

9.3.3 Reasons for the choice of metaphor to convey affective meaning: off-record status

Schon's study of the way in which the disease metaphor was used to talk about urban housing shows that the choice of a particular metaphor can influence people's perceptions of a situation without the writer of a text having to resort to overtly evaluative language (1993). Lakoff and Johnson demonstrated the same point in their discussion of the WAR metaphor which was used to talk about the energy crisis in the United States of America in the 1970's (1980). Miller and Fredericks examined a number of texts dealing with public education in the United States and concluded that the metaphors chosen could create biased perceptions of the situation discussed (1990). In each of these studies the authors argue that the metaphors chosen led to certain inferences and certain actions being perceived as obvious and natural. The metaphors chosen enabled the creators of the texts to give their conclusions the false impression of inevitability.

Bosman used informants to test the property of metaphor to influence perceptions of a topic (1987). He asked two groups of subjects to read different texts, both of

which were critical of an extreme right-wing political party, the Center Party, or CP, but which used different metaphors to describe it. The subjects were then asked to record their level of agreement with statements about the party. One of the texts used a PLANT metaphor, in which the country was equated with fertile soil and the right-wing party with a plant which had sprung out of the soil. Subjects who had read this text were more likely to agree with the statement ‘It doesn’t make any sense to fight the CP; that would be nothing more than fighting a symptom’ than subjects who had read the other text, in which a MASK metaphor was used. Bosman concluded that the metaphors in which messages were framed led to certain inferences seeming more natural.

In each of the studies described here, the composers of the texts relied on the logical coherence of the metaphor to make particular inferences seem obvious. The studies demonstrate a second feature of metaphor which makes it attractive as a vehicle for affective meaning: it can be used to express an evaluation off-record. Each of the texts studied seems to have been partly created with the intention that readers would be led to accept, or at least consider, a particular view of a situation as the obvious, possibly the only, conclusion. In fact that interpretation of the situation was a biased evaluation which the writer of the text wished to persuade them to hold.

Martin describes this off-record nature of some metaphorical evaluations. He discusses a text in which governments are talked about metaphorically as if they were parents. He comments ‘Everybody understands what parents do and why

they are necessary. And if governments are parents, they must be necessary too,' (1989: 25). He points out that when the metaphor is explained in this way we may question its entailment that governments are necessary, but that embedded in the text as it is we are more likely accept the entailment without challenge.

9.4 MECHANISMS FOR THE ENCODING OF AFFECTIVE MEANING: MAPPING IMPLICATIONS

In the course of the above discussion it has been suggested that there may be two mechanisms by which metaphor encodes affective meaning: through the mapping of metaphors to create particular entailments, and through the choice of lexis whose literal meanings have particular connotations. The illustrative examples I have discussed, dysphemisms from the source domain of animals, and metaphors used by advertisers and politicians, may not be typical of unmarked, conventional metaphors. In this and the following section I will look at each mechanism for encoding affective meaning through metaphor. I will attempt to determine to what extent each mechanism is evidenced in a selection of concordanced corpus data, in order to establish whether the mechanisms are significant in the development of conventional linguistic expressions. To do this, I examine linguistic metaphors from several semantic areas.

9.4.1 The fitness mapping: methodology

To examine the metaphorical mapping of entailments, I consider linguistic metaphors mapped from the source domain of physical fitness, in an attempt to

determine whether, and to what extent, affective meaning is derived through implicatures created by the underlying conceptual metaphor. For this study I chose a set of frequent words from the lexical field of physical fitness and examined their concordances (Study 37). I isolated those whose most frequent metaphorical senses occur in the target domain of business and economics, and I examined every such metaphorical use in the corpus¹. Concordances consisted of between approximately 500 and 4000 citations. These linguistic metaphors seem to realise the conceptual metaphors A BUSINESS IS A PERSON and A COUNTRY'S ECONOMY IS A PERSON. They equate bodyfat with personnel, procedures or physical materials which are not currently needed. Physical fitness is equated with efficient management, and losing bodyfat is equated with reducing overheads.

I studied citations of the linguistic expressions realising these underlying metaphors and attempted to determine the affective meaning of each item and to see whether these meanings could be traced to the entailments of the conceptual metaphor. To do this it was also necessary to examine a large sample of citations of the literal sense of each item, in order to establish its affective value in the source domain.

9.4.2 The fitness mapping: frequent linguistic realisations

The conventional linguistic metaphors from the source domain of fitness which realise A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON most frequently

¹ At the time when this study was conducted, the Bank of English consisted of 211 million words.

are the following: **fit**, **lean**, **trim**, **bloated**, **flabby**, **flab**, **slim** (verb), **slim down** (verb). **Slim** (adjective) and other adjectives such as **overweight** are also used, but less frequently. In the source domain, **fit**, **lean**, **trim** and **slim** seem to carry positive affective meaning, while **bloated**, **flabby** and **overweight** seem to be negative. The two verbs, **slim** and **slim down**, carry positive affective meaning, while **flab** is negative.

Citations confirm that in the Western view of the human body, any bodyfat is considered unsightly and inefficient, a problem which should be tackled with determined action. In this view, bodies which have little fat are healthy, efficient and tidy. If this logic is carried across to the target domain, then a company having staff, space or materials that are not always fully occupied or employed will be perceived as having a problem which should be dealt with by a programme of reduction. A company which does not have any surplus staff, space or materials will be positively evaluated. This study attempted to discover whether these entailments are in fact carried over into the target domain and maintained by this metaphor, as studies such as Schon's and Bosman's (ibid.) would predict.

Citations for the central linguistic items show that the sense relations within the target domain are structured approximately following those of the source domain. The syntagmatic and paradigmatic relationships between the linguistic metaphors listed above seem approximately parallel to those which hold between their literal uses. For example, in both domains, **lean** and **trim** are loose synonyms and have a relationship of antonymy with **flabby**. In both domains **trim** and **fit** are

collocates. As would be expected from the studies reported in Chapter Six, the sense relations in the target domain are not entirely consistent with those holding in the source domain. Further, most lexemes have several other metaphorical senses which are unrelated to the target domain of business and economics, or to each other. It is consistent with findings reported in Chapter Seven that there is some tendency for new, semi-fixed collocations, such as **lean and mean**, to form in the target domain.

9.4.3 The fitness mapping and affective meaning

It was found that the target domain affective meanings of the lexemes listed above tend to reflect their source domain affective meanings. Further, the logic of the conceptual metaphor seems to be carried from source to target domain. However, evidence that the metaphor is sometimes used ironically suggests that there is some resistance to its logic. The relevant senses of each lexeme are now discussed and exemplified.

Fit

Fit is one of the most frequent linguistic items from the domain of fitness realising the conceptual metaphors A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON. For every 1000 citations of the adjective form in the Bank of English, around 120 have the meaning 'suitable', as used in the expression 'be fit to look after children'. Of the remaining citations, around 800 have the literal meaning 'be in good physical condition' and the other 80 are realisations of the above conceptual metaphors.

The literal sense of **fit** evaluates positively. It occurs regularly in personal advertisements in which people describe themselves to prospective partners, and in which they presumably choose words to present themselves in a positive light.

Fit also collocates with other positively-evaluating adjectives, occurring in expressions such as **fit and attractive**. The phrasal co-ordination using **and** suggests that the positive orientation of **attractive** also applies to **fit**. Two types of evidence suggest that the metaphorical sense also has a positive affective meaning. Firstly, businesses or economies described as **fit** are contrasted with inefficient ones. Secondly, this sense of **fit** collocates with the positively evaluating **profitable**. Both types of evidence are illustrated in the following citation.

The Meaney-Gifford partnership **turned** Rank from a **sickly, loss-making** company into a **fitter** and **profitable** one.

Lean

Lean, like **fit**, evaluates positively in the source domain. The writer of the following citation seems to connect emotional and physical health, mentioned in the first sentence, with leanness, which is referred to in the second sentence. As there is no marker of contradiction such as ‘however’ connecting the two sentences, it is assumed that the writer considers them to be compatible.

Emotionally she felt satisfied she was in tip-top shape and loved her body and her running. Like most female athletes she was **lean** and muscular.

In the target domain **lean** is used, like **fit**, to talk about efficiency. In the following citation the writer refers to a struggle to become lean, suggesting that this is viewed as a desirable condition.

And in the struggle to turn the company into a **lean** commercial outfit, some lines have been discontinued altogether.

In the target domain, the regular collocation with **mean**, along with other contextual clues suggests that **lean** is used to describe an aggressive cost-cutting management style. The evidence described above suggests that this is a style which is evaluated positively by the speaker. Obviously, this is a point of view which is probably not shared by some other speakers, such as workers whose jobs may disappear in the pursuit of efficiency.

Trim

Like **fit** and **lean**, **trim** describes lack of bodyfat in the source domain and the absence of surplus in the target domain. Citations of both these senses of **trim** are

less frequent than citations of the other two items. Contextual evidence shows that **trim** evaluates positively in both domains. In the following citation, the items **pleased** and **valuable** both suggest this.

Investment analysts who had followed TRW's fortunes were **pleased** with the company's latest proposal. They believe a **trimmer** company will become more **valuable** during the next 18 months.

Flabby, flab

Flabby is used as an antonym to the above adjectives in both source and target domains. In the source domain its negative affective meaning can be traced through collocates such as **unsightly**. The noun **flab** is similarly negative in the source domain, also collocating with **unsightly** and regularly occurring in citations exhorting readers to **fight the flab**. In the target domain, **flabby** and **flab** are used to describe and refer to personnel or physical materials considered to be surplus. Their negative affective meaning can be traced in the following citations. In the first, the use of **if** shows that the writer considers that the co-occurrence of **decent** and **flabby** as descriptors of industrial bases is slightly contradictory.

The country [...] has sophisticated legal and financial systems, a **decent, if flabby**, industrial base, and plenty of graduates.

In the next citation, the writer specifies reducing flab and becoming slimmer as the condition for Security Pacific to remain attractive, implying that flab and attractiveness are incompatible.

With more scope left to **cut flab**, a slimmer Security Pacific must remain **attractive** to a would-be cost-cutter.

Bloated

Bloated has a negative affective meaning in both source and target domains. In the source domain it is used either to describe problems such as indigestion, or in collocation with **corpse**. In the target domain, its reference and affective meaning are similar to that of **flabby**. In the following citation, its negative affective meaning is shown by its collocation with **wasteful**. This is also demonstrated by the clause relation of particular-general (Hoey 1983) that links the overtly negative **flop** with the noun phrase in which **bloated** occurs.

The 10m pounds **flop** of Eldorado is seen as a perfect example of [...] the **wasteful, bloated** bureaucracy the BBC has become.

Slim

The conceptual metaphors A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON are most frequently realised by the adjectives and noun described above, but the verb **slim** also occasionally occurs in the target domain. It undergoes grammatical changes when used in this metaphorical sense: it is usually used with the particle **down**, and is almost always transitive, whereas in its literal sense it is usually intransitive. It was shown in the previous chapter that grammatical changes between the source and target domain are not unusual.

Most citations of the literal sense of **slim** are from literature which advises readers about ways to lose weight. This is presented as a desirable course of action, strongly suggesting that this sense of **slim** carries positive affective meaning. In the target domain, **slim down** also seems to be used to describe an action which the writer regards positively. In the following citation, the items **good model** and

should show this.

Switzerland this week offered Scandinavians a **good model** for a bank merger that **should slim down** the banking industry.

Adjectival **slim** is occasionally used to realise the conceptual metaphors A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON, but this sense is rare in comparison with other metaphorical senses of the lexeme (these are discussed in the following section). The form **slimmed-down** is more frequent. In the following citation, the collocation with **efficiently** and the information that workers were rewarded both suggest a positive affective meaning.

Manufacturers were merely rewarding their **slimmed-down** workforces for working **efficiently**.

9.4.4 Innovative extensions of the fitness mapping

As noted in Chapters One and Four, proponents of the contemporary theory of metaphor hold that systematic metaphors can generally be expanded innovatively, with further items from the source domain being mapped across to the target domain by analogy with established linguistic items (for example Lakoff and Turner 1989). There is evidence that this process occurs in the case of A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON, and that the affective meanings of each linguistic item are also mapped. An item which appears to have a relatively innovative metaphorical sense is **unfit**. This sense of the lexeme is rare, accounting for fewer than 1 in 1000 citations. The relative infrequency and dependency (see Chapter Four) of this sense is also demonstrated by the fact that

it is always qualified in corpus citations, by **economically** in the following citation.

The Germans approve of such tough treatment for the **economically unfit**.

Fitness is also mapped in this way. Its metaphorical sense is also infrequent, and like **unfit**, it is always qualified, as in the following citation.

We were supposed to be **building up** our industrial **strength** and **fitness**.

Citations show that the metaphorical senses of **unfit** and **fitness** have affective meanings consistent with the logic of the conceptual metaphors which they realise. The negative orientation of **unfit** is evidenced by ‘approval’ of **tough treatment** for this condition. The positive orientation of **fitness** is shown by its collocation with **strength** and **build up**. Sinclair has demonstrated that the object of transitive **build up** is almost always an entity which is viewed positively by the writer or speaker (1991).

9.4.5 Loss of affective meaning

Although there is a great deal of linguistic evidence suggesting that affective meanings in the source domain of fitness are transferred to the target domain, there is also some corpus evidence that the value system underlying the metaphorical mapping is not accepted by all users of the metaphor.

It was noted in the discussion of **lean** that the fitness metaphors evaluate from a viewpoint which may not be shared by all the parties involved. If a large number

of speakers do not share the viewpoint encoded in a cluster of lexical items, it seems unlikely that they will accept and use the items without challenge. An interesting parallel can be found in the case of euphemisms, which are initially used in preference to a more established term for a taboo, unpleasant or embarrassing topic in order to avoid the unpleasant connotations of the existing term. Both Palmer (1976: 64) and Leech (1981: 46) note that many euphemisms quickly develop the negative connotations held by the previously existing term. This suggests that a new lexical item that encodes an affective meaning which is counter to many speakers' feelings about the referent can lose that affective meaning over a period of use. It seems possible that the same can happen to metaphors which encode an affective meaning that is not widely shared.

Some linguistic realisations of A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON may be in the process of losing affective meaning. For instance, **slim (down)**, used metaphorically to refer to reductions in resources, would be expected to share the positive affective meaning of its literal counterpart, as is the case in citations discussed earlier in this chapter. However, positive affective meaning is not detectable in other citations, such as the following.

Hospitals which cannot raise enough from charity are having to offer a **slimmed down** service due to **lack** of up-to-date equipment.

If all the **redundancies** come into effect by the end of the summer it will mean the company **slimming** its workforce by around 10 per cent.

The proximity of the items **lack** and **redundancies** suggests that the writers are not completely aligning themselves with the viewpoint underlying the conceptual

metaphor. In these citations **slim (down)** seems to have lost its affective meaning, to be a euphemism for an action which is perceived negatively, or, possibly, to be an ironic use.

On other occasions speakers seem to be aware of the usual affective meaning of linguistic metaphors but do not share the view constructed by them. In these cases they might be expected either to avoid using them, or to signal a distance from them. Evidence of this is found in citations of **fit** and **lean**. In the Bank of English, when these two items occur in quotations reported as indirect speech by journalists, they are sometimes placed inside quotation marks, the rest of the quotation not being marked in this way. This is the case in the following citation.

He yesterday declined to comment on the implications of the demerger for employees, but has said the new business must be '**leaner and fitter**'.

This seems to indicate that the journalist wants to signal that they do not share the values suggested by the original user of these words. In another distancing mechanism, the expression **lean and fit** is used ironically, as in the following citation.

It gets **worse**. Like everything else, television had to become **leaner and fitter**. Gone are the days of expensive blockbuster documentaries, and instead are slotted in the **quick** and **cheap** quiz shows.

The writer of this citation equates **leaner and fitter** with **worse, quick** and **cheap**.

As the usual affective meanings of metaphorical **lean and fit** are probably well-known, it seems likely that the writer is deliberately using the metaphors ironically to signal his or her disagreement with the values encoded in them.

9.5 METAPHOR AND CONNOTATIVE MEANING

I now discuss the second mechanism by which, it is suggested, speakers use metaphors to convey affective meaning. This is the choice of vehicle terms which have strong positive or negative connotations. Several writers argue that the connotations of individual lexical items are transferred metaphorically. Cook's (1994) example of the perfume 'Opium' was discussed above. Ullmann claims that the grounds for the metaphorical sense of **bitter** are emotive rather than objective (1962), and Lehrer makes the same point with regard to **sour** when it is used metaphorically in 'a sour note' (1978). However, Krzeszowski suggests that metaphorical senses may have stronger affective meanings than their literal counterparts. His examples include **divide** and **count**, both of which, he claims, are neutral when used with their literal, mathematical meaning. He argues that **divide** develops negative affective meaning when it is used metaphorically in expressions such as 'divide and rule', and **count** develops positive affective meaning as a metaphor in expressions such as 'count on me' (1990). In this

section I attempt to determine whether the affective meaning of a number of individual lexemes is transferred from literal to metaphorical senses unchanged.

9.5.1 Methodology

For this study (Study 38) I chose a group of lexemes which have closely related denotative meanings but differing affective meanings in the source domain. I used concordances to examine the literal and conventional metaphorical senses of each lexeme. If semantically-related items are generally mapped onto the same target domain, and if affective meanings are transferred metaphorically, it would be expected that the metaphorical senses of these lexemes would be loose synonyms and that their affective meanings would parallel those found in their literal senses.

The lexemes examined were **thin**, **lean**, **slim**, **slender** and **skinny**. This lexical set was chosen because it is prototypical of groups of words which have similar denotative meanings but different affective meanings in the source domain of the human body. Carter tested their affective meanings using informants and following Osgood's scales for measuring meaning (Carter 1981, 1992: 219, Osgood 1957). His tests found that **thin** is neutral, **slim**, **slender** and **lean** have positive affective meanings and **skinny** has a negative affective meaning.

All the citations in the Bank of English¹ for **thin**, **slim**, **slender**, **lean** (adjective), and **skinny**, and a sample of their comparative and superlative forms were looked at.

¹ At the time when this study was conducted, the Bank of English consisted of 211 million words.

In the first stage of the study I identified the most frequent literal and metaphorical senses of each lexeme. I then examined citations of the literal senses for evidence in the co-text of the affective meanings identified by Carter (*ibid.*) using intuition and informant testing. Finally I examined citations of metaphorical senses for affective meaning. The results are now described.

9.5.2 Frequencies and major senses

The frequency of each of the lexemes in the corpus is given as the number of occurrences per million words of running text. Non-adjectival uses, such as the verb **lean**, and all proper names have been excluded.

Table 9.1 Frequencies of ‘thin’ and near-synonyms

Lexeme	occurrences per million words of text
thin	41.41
lean	8.43
slim	17.76
slender	5.7
skinny	4.36

Thin

It can be seen from the table that **thin** has more citations in the corpus than the total of its loose synonyms. **Thin** was also found to have the greatest number of separable senses. Carter's claim that literal **thin** is affectively neutral seems at first to be supported by citations. Frequent collocates are words referring to height, hair colour and clothing, as in the following citation.

He was a tall **thin** man with a shock of white hair and weary eyes.

There is apparently little evaluative lexis in the co-text in citations of this type. However, where **thin** is co-ordinated with another adjective by **and**, the combination seems to connote ill-health. The adjective most frequently following **thin and** is **pale**; the next most frequent is **weak**, and then **frail**. The adjective most frequently following **thin but** is **strong** and the next most frequent is **healthy**, suggesting that writers perceive a contrast of some sort between thinness and strength and health. The comparative form **thinner** is even more strongly associated with ill-health, as evidenced in the following citation.

Tony saw that her face had grown **thinner** and there were dark patches beneath her eyes.

Thin has a number of senses which are considered literal by the criteria developed in Chapter Four and which seem to be related to the 'human body' sense but are nonetheless distinct. These include **thin** of a liquid, and the sense which is an antonym of **thick** and is used to talk about width. The most frequent metaphorical senses of **thin** seem to be more closely related to these literal senses than to the

‘human body’ sense. This means that it is difficult to make conclusive statements about the transference of affective meaning from the ‘human body’ sense. **Thin** also occurs in a number of more fixed, idiomatic expressions. These are not examined here because, as was argued in Chapter Seven, the transfer mechanism for such expressions seems to be different in nature.

Each of the three most frequent metaphorical senses has negative affective meaning. In the most frequent of these, **thin** is used to negatively evaluate ideas or assertions which the speaker considers to be insufficiently supported, or evidence which is insufficient. The negative orientation can be detected in the following citation.

When you make statements **based** on the **thinnest** of anecdotal evidence, it creates an impression which is totally contrary to the way things really are.

The affective meaning of **thinnest** in this citation seems best explained in terms of a conceptual metaphor such as THEORIES ARE BUILDINGS (Lakoff and Johnson 1980). This metaphor generates linguistic expressions such as **solid foundations** (of an idea), the ‘**structure** of an argument’, and, historically, **based** as used in the above citation. The metaphor equates evidence with the foundations of a building. By analogy with physical foundations, evidence should be **strong** rather than **weak** or **thin**. The ‘buildings’ conceptual metaphor seems to explain the negative affective meaning of this sense of **thin** in a way that simply comparing it with its literal counterpart in isolation does not.

A further metaphorical sense of **thin** is used in collocations such as **thin veneer** and **thin pretence**. This sense also seems to carry negative affective meaning, as the following citation demonstrates.

A **thin** veneer of law and order barely keeps the seething, bubbling cauldron of chaos and anarchy in check.

Thin is also used in a metaphorical sense in collocation with **trading**, as in the following citation.

Share prices edged lower in **thin** trading today on the Tokyo exchange.

Citations show that either **thin** or **light** can be used to talk about share trading which is below average in intensity. **Thin** is used to evaluate the situation negatively, and is chosen where share prices have fallen. Where the overall outcome is not negative, writers tend to choose **light**, as in the following citation.

Futures prices advanced modestly in **light** trading.

It seems possible that in this last case the negative affective meaning of **thin** is linked to the connotations of ill-health which it has in its literal ‘human body’ meaning. However there is no firm contextual evidence for this, and the affective meanings of the other two metaphorical senses discussed here are not easily accounted for in this way.

Lean

Where **lean** is used in its literal sense to describe people, there is a positive

implication of physical fitness, an element which is in contrast with the connotations of literal **thin**, discussed above. It has two main metaphorical senses, the first of which has been discussed above. This is a realisation of A BUSINESS/COUNTRY'S ECONOMY IS A PERSON. Here the positive affective meaning traceable in the literal sense seems to be clearly transferred to the target domain. The second frequent metaphorical use is to describe a period of time in which economic difficulties are experienced, exemplified in the following two citations.

...**lean days** for employees whose hours and paychecks will be **reduced**.

In fact it's been luckier than most in the struggle all arts organizations have had to **endure** to survive **lean** economic **times**.

In collocation with **days** or **times**, **lean** seems to carry negative affective meaning.

This can be traced through collocates such as **reduced** and **endure** in the above citations. The sense may have Biblical origins in the dream of Moses, in which thin cows symbolised years of starvation. Its affective meaning cannot be explained by transference from the modern literal sense.

Slim

Like **lean**, the literal sense of **slim** clearly carries positive affective meaning.

Many of the corpus citations are from personal columns in which people advertise for partners and describe themselves as **slim**, which suggests strongly that this is perceived as a word with positive connotations. People also write about wanting to be slim, as in the following citation.

All my life I've looked enviously at those who are **slim**.

Slim often appears in structures such as **in order to keep slim** or **in order to stay slim**, suggesting that it describes a positive characteristic which people strive to achieve and maintain. In the following citation it collocates with other words which evaluate appearance positively.

She looked **lovely** he thought, **slim** and **immaculate** in a grey linen suit.

The adjective **slim** has two frequent metaphorical senses in the Bank of English, both of which carry negative affective meaning. The *Shorter Oxford English Dictionary* (Little *et al.* 1973) gives evidence that both these and the literal meaning derive from the same etymological root, and all have existed in English for several hundred years. The evidence suggests that the negative affective meaning of the metaphorical senses is older than the approbation of the current literal sense.

The first of the metaphorical senses of **slim** collocates with **profits**, **margin**, **lead** and **majority**. It is used to describe the difference between turnover and expenses in a business or between votes for the winner and votes for the losers in an election. Citations show that **slim** is used when these differences are perceived as dangerously small, and it thus presents a negative evaluation, as in the following.

The assumption is that in a few hours' time, when the Knesset vote is taken, Israel will at last have a new government even though the **majority** is likely to be **slim**.

The second metaphorical sense is used to describe future prospects which are very

unlikely. In almost all the corpus citations these future prospects are presented as desirable, and so **slim** evaluates the situation negatively. In the following citations, for example, the writers view extension of a deportation order and saving the mackerel as favourable outcomes, and the probability of either happening is described, pessimistically, as **slim**.

A potentially favourable asylum application to another country is near completion, but has not yet been finalised. However, the **chances** of her deportation order being extended are **slim**.

Only a well-enforced ban on commercial fishing could save the mackerel now, and the **prospects** of that happening are **slim**.

Slim also has an infrequent metaphorical sense, mentioned above, which is a realisation of A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON. This has a positive affective meaning, which can be detected through the collocates **perfect** and **fit** in the following citation.

It is a **perfect** business for recessionary times; one that is **slim**, **fit** and knows itself, its core product and its customers.

Even using the extensive corpus evidence available, of nearly 4,000 Bank of English citations at the time of the study of the base, comparative and superlative forms, it is difficult to discern any pattern in the affective meanings of the lexeme **slim**. In the most frequent literal sense and one infrequent metaphorical sense it evaluates positively, while in its two most frequent metaphorical senses it evaluates negatively. There do not seem to be conceptual metaphors underlying the two negatively oriented metaphorical senses which account for the orientation. This, and the etymological evidence mentioned above, leads to the assumption

that the different affective meanings of different senses have developed unsystematically.

Slender

Like **slim**, **slender** carries positive affective meaning in its literal sense. This can be traced in citations through collocates such as **attractive**. **Slender** has two metaphorical senses which have approximately the same meanings as the two most frequent metaphorical senses of **slim**, that is, of ‘narrow’ describing a majority or a profit margin and ‘small’ describing a future chance or hope. Like the senses of **slim**, these carry negative affective meaning. Corpus citations of **slender** do not show any metaphorical uses in which **slim** could not be substituted with only minor changes in meaning. It seems as if the lexeme **slender** is parasitic on **slim**, its very near synonymy making it available for metaphorical extension into the same domains as **slim**.

Skinny

Skinny is the least frequent of the set examined. The literal sense clearly carries negative affective meaning, as the following citations demonstrate.

He'd grown up **skinny** and hating himself to his very cell level.

At school he was a shy **skinny** boy with a speech impediment.

There are very few metaphorical citations of **skinny** in the corpus and there is no metaphorical sense frequent enough to be regarded as a conventional metaphor.

Where **skinny** is used metaphorically, it describes narrow margins and could be substituted with either **slim** or **slender**, as in the following citation (which refers to a golf course).

Stephen labelled Paradise Springs a tough course where the **margin** for error is **skinny**.

Skinny seems to derive its meaning in this citation through the equivalent senses of **slim** and **slender**, and so would be expected to carry negative affective meaning. The sense is so rare however that it is not possible to decide whether this is actually the case.

A similar pattern of near synonymy was noted in the discussion of temperature metaphors in Chapter Six. It was found that while the frequent, central items such as **cold** and **warm** had independent metaphorical senses, less frequent members sometimes took on metaphorical meaning by analogy with these central terms. Thus **frosty** and **icy** take on the same metaphorical senses as **cold**, while **cool** has a range of unrelated metaphorical senses.

9.5.3 Metaphorical mapping of connotative meaning

In this study of lexemes whose literal senses are loosely synonymous, I looked first for relations of loose synonymy in the target domain and secondly for transference of affective meaning from the source domain to the target domain. I found that the metaphorical senses of the lexemes that I studied were largely but not entirely unrelated. The paradigmatic relationship of loose synonymy holding

between literal senses of lexemes generally holds in the target domain only for infrequent lexemes such as **slender** and **skinny**. The most frequent lexemes in the set do not seem to have related metaphorical senses.

I examined the literal senses of this group of lexemes and found that each has a discernible affective meaning; even literal **thin** is not neutral, as Carter claims (1981, 1992). This would not have been expected from Krzeszowski's claim that metaphorical senses are more likely to carry affective meaning than their literal counterparts (1990). However, while the lexemes studied have affective meanings in both source and target domains, I did not find a pattern of transfer of affective meaning consistent with isolated source domain meanings. I did find however that the affective meanings of metaphorical senses could sometimes be accounted for if items were considered as part of a systematic conceptual metaphor with its own logic, rather than in isolation, as self-contained units. Nonetheless, even considering the role of an item in a conceptual metaphorical system, some affective meanings are difficult to account for. For this reason, I concluded that, as argued above, it seems likely that the affective meanings of words develop and change over time to reflect speakers' beliefs in the extra-linguistic world.

The metaphorical senses of the less frequent items mentioned above, such as **slender** and **skinny** share denotative meaning with the more frequent **slim**. It seems likely that they also share its negative affective meaning in the target domain. This again suggests that some infrequent words do not develop metaphorical senses of their own but operate as an echo of their more frequent

loose synonyms.

9.6 SUMMARY AND CONCLUSION

The study of the linguistic realisations of A BUSINESS/ COUNTRY'S ECONOMY IS A PERSON considered the effect of a conceptual metaphor on meaning, and concluded that it has an important role in determining metaphorical affective meaning, although other factors also play a part. In the study of **thin** and its loose synonyms I examined connotations of individual lexical items in the source domain and concluded that these have little or no influence on the affective meaning of established conventional metaphors. These findings are in accordance with Lakoff's argument (1987b) that metaphorical systems are important for understanding thought, but that lexical metaphors in isolation are not significant.

In the second study I also considered whether another type of system, the paradigmatic relation of loose synonymy, was influential in creating metaphorical networks of near synonyms. I found that while literal loose synonymy is occasionally recreated in the target domain by infrequent lexemes, in most cases this does not happen. It seems that the denotative and affective meanings of frequent linguistic metaphors can often be explained by their realising conceptual metaphors, but are rarely explained by the paradigmatic relations held by their literal counterparts alone.

These findings of these studies also reiterate two points which have been made at

other points in this thesis. Firstly, of the two types of sense relations, chain and choice, it seems to be the relation of chain which more frequently survives metaphorical mapping; collocates are often mapped together while loose synonyms are not. Secondly, although some patterns of linguistic metaphor can be explained through the mapping of sense relations, there is a good deal which is apparently arbitrary.

10. CONCLUSION, EVALUATION AND APPLICATIONS

10.1 CONCLUSION

10.1.1 General summary

In the series of corpus studies discussed in this thesis, I have examined a number of conventional linguistic metaphors and attempted to relate these to patterns suggested by the contemporary theory of metaphor. In Chapters One and Two I discussed those aspects of the contemporary theory which relate to my research. It was then necessary to spend some time developing a system for distinguishing different senses of lexemes and deciding which senses should be treated as conventional metaphors, which I did in Chapters Three and Four. After describing my methodology in Chapter Five, I spent Chapters Six to Nine examining several aspects of linguistic metaphor: paradigmatic and syntagmatic relations, syntactic patterning and affective meaning. In the studies of lexical relations and affective meaning, I considered some claims of the contemporary theory and some notions that seemed to be implied by the contemporary theory, and I attempted to establish whether these were borne out by the corpus evidence of selected lexemes and semantic fields. In the study of metaphor and syntax, I examined an aspect of linguistic metaphor which has received little attention in the contemporary theory.

10.1.2 Linguistic metaphors and the contemporary theory

The corpus studies showed that there is hard linguistic evidence for a number of tenets of the contemporary theory. Firstly, metaphor is indeed pervasive in language. In terms of tokens, the concordances of many lexemes showed that metaphorical senses are often as frequent as or more frequent than literal senses. For instance, nearly 70% of citations in the concordance of **blow** are instances of a metaphorical sense. Metaphor is also frequent in terms of numbers of senses. Sinclair's corpus research has convinced him that most of the most frequent lexemes of English are highly polysemous (1991), a point also made by Béjoint (1994). Metaphor is a major mechanism in the development of polysemy (Ullmann 1962, Dirven 1985, Lakoff 1987a), and so the number of metaphorically-generated senses is large. My corpus studies are consistent with these assertions.

The studies also provided evidence for the importance of metaphor in generating the vocabulary to talk about many abstract fields. For instance, the corpus study of **grasp**, and the informant study which included citations of this item are consistent with Reddy's (1993) claim that the domain of communication is lexicalised almost entirely through the source domain of physical grasping.

Thirdly, the studies reported here confirm that many linguistic metaphors are related systematically to each other. I have found evidence of numerous systems of semantically-related linguistic metaphors, and very few instances of genuine one-off metaphorical transference. For instance, the target domain of

disappointment and defeat contains a system of linguistic metaphors from the source domain of physical violence, which includes items such as **blow** and **hammer**. It seems that each of these linguistic metaphors must have come into existence through their membership of a coherent group, echoing the relationships holding between their literal counterparts. The alternative explanation, that this number of lexemes have literal and metaphorical senses in the same domains by coincidence and as the result of one-off metaphorical transfers, seems highly unlikely.

Further, many frequent lexemes such as **warm** seem to pull their less frequent loose synonyms from the source domain with them into same target domain. For instance, **tepid** and **lukewarm** both have metaphorical senses analogous to a sense of **warm** in the target domain of friendship. Again, it is unlikely that these mappings are coincidental. They seem to constitute evidence that groups of lexical items rather than individual items are mapped. In itself this does not prove that metaphorical mappings take place at the level of thought, as is claimed in the contemporary theory, but it is certainly consistent with the claim.

Corpus evidence also supports the claim of the contemporary theorists that speakers regularly create innovative metaphors by mapping new items from a source domain onto a target domain following an established metaphorical mapping. These innovative metaphors may eventually become conventionalised. For instance, **unfit** is very occasionally used in the domain of business and economics, a use which seems to have become conventional only very recently.

This was presumably an innovative extension of the established mapping of fitness onto business and economics, already realised conventionally by linguistic metaphors such as **lean** and **fit**.

As these corpus studies have been linguistic in focus, I have not considered a number of important aspects of the contemporary theory, which is centrally concerned with cognition. I am not claiming that my studies prove or disprove any aspect of the contemporary theory, merely that they are often consistent with it. However the studies have also brought to light a number of linguistic features of metaphor which do not seem to be explained by the contemporary theory. They are not inconsistent with the theory, but they do require some further explanation. In the rest of this section, I discuss these linguistic aspects, expanding in places on some of the points made earlier here.

10.1.3 Metaphor and metonymy

My studies of linguistic metaphor suggest that contemporary theorists such as Gibbs (1994) are correct in ascribing importance to the process of metonymy. In a substantial proportion of the concordance analyses which make up this thesis, a number of frequent senses are traceable to metonymy. Where the lexemes analysed have a literal meaning associated with the human body or with bodily processes, I have almost invariably found a non-literal sense or senses which are metonymically-motivated. For instance, the concordance of **shoulder** shows that around 5% of all citations are metaphorical metonyms such as **rub shoulders**. For the noun **shoulder(s)**, metaphorical metonyms are more frequent than

conventional metaphors. Further, many conventional metaphors seem to have metonymical motivation.

In Chapter Two I developed a classificatory model of linguistic expressions motivated by metonymy. I argued that talking about a bodily experience as a way of referring to an associated mental or emotional experience is a form of metonymy. This means that non-literal expressions which refer to an aspect of bodily experience form a large subset of metonymic expressions. This understanding of metonymy also implies that a large number of conventional metaphors are metonymically motivated, as they can be traced to bodily experience (Gibbs 1994, Lakoff 1993). In this model, metonymical motivation underlies the non-literal senses of polysemous expressions such as **take a deep breath** or **bite one's lip**, which I termed 'metaphorical metonyms', and the non-literal senses of lexemes such as temperature terms, which I described as 'metonymically-grounded metaphors'. In the corpus studies I found a large number of instances of metaphorical metonyms and metonymically-motivated metaphors.

The notion of metonymical motivation is at odds in several respects with the 'semantic field' hypothesis of mapping, put forward by writers such as Kittay (1987) and discussed in Chapter Six. In the 'semantic field' view, it is held that semantic fields may be metaphorically mapped complete with paradigmatic relations such as synonymy, antonymy and hyponymy. This hypothesis suggests an intellectual, abstract process of analogy, in contrast to metonymical mapping,

which is an association often based on physical sensations and experience. The ‘semantic field’ view implies a coherent organisation of ideas, while a metonymical mapping view implies an unorganised collection of connections at a detailed level. The two views sometimes predict different linguistic patterns, for instance where the field of temperature is mapped onto the field of emotions. According to the ‘semantic field’ view, paradigmatic relations existing between temperature lexemes in the source domain can be recreated in the target domain. According to a ‘metonymy’ model of mapping, temperature terms will be used metaphorically to refer to emotions with which they are physically associated. This may not result in a coherent set of metaphorical senses exhibiting paradigmatic relations consistent with the source domain.

This is not to imply that only one of the two hypotheses can be correct. Corpus evidence suggests that different sets of linguistic metaphors can be attributed to each type of mapping. It seems probable that in a number of target domains the two types of mapping interact to produce a complex network of non-literal senses. For instance, in Chapter Six, I found that the linguistic evidence suggests that the metaphorical senses of the four major temperature terms {**hot warm cool cold**} have developed through metonymical mapping rather than through the mapping of semantic fields. It appears that each metaphorical sense has developed as an independent metonymic connection, albeit within the general framework of EMOTIONS ARE TEMPERATURES, and consequently there is only patchy evidence of logical relations between the target domain senses of these four lexemes. Nonetheless, there was evidence that at a more detailed semantic level,

paradigmatic relations are transferred in a way that suggests the mapping of semantic fields. For instance, **icy**, **frosty** and **chilly** all have metaphorical senses closely related to a metaphorical sense of **cold**.

Where mappings seem to have little or no metonymic motivation, such as is the case for the mapping of literal fitness onto economics, relations between linguistic metaphors tend to be roughly consistent with a ‘semantic field’ view of mapping. For instance, in Chapter Nine it was shown that **slender** and **skinny** both have metaphorical senses meaning ‘narrow’, closely related to a metaphorical sense of **slim**.

Metaphorical metonyms seem to be distinguished from conventional metaphors by particular linguistic features. They tend more strongly to be multi-word items, such as the set of expressions based on bodily experience, which includes **rub shoulders**, **take a deep breath**, **miss a beat** (of the heart). This is presumably because an experience such as a bodily process cannot always be summarised in a single word. Further, as was argued in Chapter Eight, metaphorical metonyms differ from conventional metaphors in that they are very unlikely to show different grammatical behaviour from their literal counterparts.

10.1.4 Lexical meaning and the metaphorical structuring of knowledge

The hypothesis that metaphors help to structure knowledge is articulated most explicitly by writers such as Gentner and Gentner (1983) and Olson (1988), and seems to be based on a ‘semantic field’ view of metaphorical mapping. In this view, formless or poorly-understood abstract fields are given shape by the imposition of a set of semantic relations imported from a concrete, easily understood source domain. In some cases, this process results in language that I defined in Chapter Two as analogy rather than metaphor. In other cases the process appears to result in the development of groups of conventional linguistic metaphors, such as expressions from the domain of literal journeys which are used to talk about life experiences. According to Lakoff’s version of this view of mapping, the metaphorical meanings of lexical items mapped in this way will be determined by analogy to their literal meanings in the source domain structure (1990).

My studies did not produce any linguistic evidence to suggest that the metaphorical structuring of knowledge does not take place. Indeed, much concordance evidence is consistent with the hypothesis that the structure of the source domain helps to shape the target domain and thereby plays a role in assigning metaphorical meaning to lexical items mapped onto the target domain. However, I also found evidence to suggest that some individual linguistic metaphors gradually develop meanings independent from those initially imposed by the metaphorical mapping. For instance, while it seems clear that the source domain of fitness gives a structure to the target domains of economics and

business, there is also evidence that the meanings of individual linguistic metaphors from this mapping have shifted away from the semantic points they once occupied in the target domain structure, particularly in terms of their affective meaning. Items such as **lean** have metaphorical senses and affective values which, presumably, were defined by their place in the source domain at the time of the original mapping. Now it seems that their target domain meaning is gradually shifting to become more independent of the semantic and affective framework imposed by the source domain structure. Thus **lean** seems to be losing its positive affective value in the target domain, and is developing an ironic, slightly derogatory meaning. This may have come about through ironic use, or through speakers signalling in other ways that they reject the meanings and values underlying the structure imposed from the source domain.

It seems then that metaphorical meanings that have come into existence through the transference of a source domain structure are not always stable. It is well-known that lexical meaning shifts over time (Ullmann 1962, Palmer 1976), and the corpus citations of items such as **lean** suggest that this process may be particularly swift where a metaphorical mapping imposes a source domain structure which implies controversial values and meanings.

10.1.5 Choice and chain

It has been noted that a 'semantic field' view of metaphorical mapping stresses lexical relations of choice, centrally synonymy, antonymy and hyponymy. In the literature on linguistic metaphor, less attention is given to the possibility that

relations of chain: collocation and idiom, may also be significant to metaphorical mapping. The neglect of this possibility may reflect a tendency to regard paradigmatic relationships as more central to the lexical structure of English than syntagmatic relations, a tendency that has been widespread until recently (Sinclair 1991).

My corpus studies have shown that both paradigmatic and syntagmatic relationships sometimes survive metaphorical mapping. Indeed, the studies discussed in Chapters Six and Seven suggest that there is a stronger tendency for collocates of a lexeme to be metaphorically mapped than some paradigmatically-related lexemes. The paradigmatic relations of loose and graded synonymy seem particularly likely to be lost in the target domain. However, further studies, based on a much larger number of lexemes and semantic fields, would be needed to confirm the relative significance of paradigmatic and syntagmatic relations in metaphorical mapping.

10.1.6 Creativity and avoidance of ambiguity

My corpus studies suggest the existence of two conflicting forces, which interact to produce metaphorical senses. These could be described as creative, leading to the development of new senses through metaphorical mapping, and conventionalising, leading to regular associations between form and sense.

I use the term ‘creative force’ to describe speakers’ exploitation of the potential of metaphorical mapping. My corpus studies showed that this is frequent in non-

literary language, and not simply a poetic device. Speakers seem to use lexical items and lexical chunks with new metaphorical meanings following patterns of transfer set by existing metaphors, both frequently and apparently often unconsciously. Even where a lexical item does not have a conventional metaphorical meaning, speakers always have the possibility of using it innovatively in the target domain. For instance, in Chapter Nine I found that near synonyms of **slim** are used with related metaphorical meanings. Similarly, in Chapter Seven, I examined collocational patterns which occur frequently in source domains, and found that they are frequently transferred to target domains. For example, the concordance of **blow** shows that few collocates from the source domain of physical violence are not also used in the target domain of disappointment and defeat.

The creative force leads to the proliferation of metaphorical senses. If this force operated without constraint, few utterances would be unambiguous, as most lexemes would have at least two potential interpretations, literal and metaphorical, and collocational combinations and syntactic patterns could not be used to determine which interpretation was intended.

However, counter to the creative force seems to be a tendency to the conventionalising of language, through which particular senses seem to become associated with particular collocational patterns and particular syntactic patterns. For instance, in Chapters Seven and Nine it was found that some collocations are almost completely restricted to the target domain. This is the case for **deep down**,

which appears to be used only to talk about the target domain of emotions, and not about the source domain of measurement. The same applies to **lean and mean**, which is used to talk about the target domain of business management and not usually about the source domain of human appearance. In Chapter Eight it was found that literal and metaphorical senses are often distinguishable through having different syntactic patterns. These can sometimes be explained by the different meanings each sense has, but there remain many syntactic patterns which cannot be accounted for in this way.

I have argued that meaning and metaphorical mapping cannot always explain the tendency for collocational and syntactic patterns to become associated exclusively with one sense of a lexeme. An explanation which does seem to account for this tendency is that it results from speakers' desire to avoid ambiguity of interpretation where possible. Thus when a syntactic or collocational pattern is regularly used with a particular sense of a lexeme, speakers avoid using that pattern with other senses of the lexeme even though meaning and logic do not rule it out. If this is the case, then the conventionalising force can be seen as a counterweight to the potentially chaotic results of the creative force.

The creative and conventionalising forces seem to work together to counterbalance each other, and the concordances of many lexemes exhibit conflicting patterns which can be traced to each of them.

10.2 EVALUATION

10.2.1 Strengths of the work

In this section I briefly discuss two strengths of the investigations which comprise this thesis. Both of these concern aspects of the use of corpus data.

Firstly, the studies reported in this thesis have involved the application of corpus data to an area of linguistics which has developed mainly through studies based on intuition and relatively small selections of texts. The work of writers central to the field such as Gibbs and Lakoff has been based on invented or poetic texts, both of which may contain features atypical of naturally-occurring non-literary texts. Some other studies in the field are based on small corpora which often yield only a handful of examples of each lexeme studied. The use of corpus data has allowed me to examine large numbers of naturally-occurring citations of lexemes. My data therefore is far more likely to be central and typical of language in use than that used in many previous studies. In this way I hope to have contributed to the understanding of metaphor and language use.

The second strength of the work is its exploitation of the tools of corpus examination. The immediately obvious application of these tools was in the field of lexicography, where enormous developments have taken place in the last fifteen years. By applying techniques developed for lexicography more widely, to the field of metaphor, I hope to have extended the scope of corpus-based study. The potential of computerised corpora for all areas of linguistic study has only just begun to be realised. New tools for processing corpora will no doubt be

devised. In this thesis I have used only existing corpus tools, principally concordances, but I have used these to consider new questions and in doing so I have exploited them in novel ways.

10.2.2 Limitations of the work

Lehrer points out that in the study of any language, especially one with a lexicon as vast as English, it is impossible to be certain of choosing examples which are representative of the language as a whole (1990). I have chosen lexemes for examination on several grounds, some because they have been discussed in the literature on metaphor and some because they exemplify problems that I have encountered in my work as a lexicographer and language teacher. All are frequent enough to be cited numerous times in the Bank of English. However, Lehrer, in her discussion of her own work on polysemy (*ibid.*), points out that it is possible that another set of examples might have been found which revealed different patterns of meaning and use. This point could also be made about my work; my own examples represent very small sections of the lexicon, albeit large samples of each section, and it is possible that there are patterns of linguistic metaphor which are not represented in my studies.

As a study of metaphor, this thesis is partial in that I have only discussed conventional metaphors. I have developed my own criteria for distinguishing these from innovative and dead metaphors. I chose not to consider innovative metaphors because I am concerned with central and typical features of non-literary language, and I chose not to examine dead metaphors because to do so

would potentially open up the study to a very large proportion of the vocabulary of English. Further, if all items that have metaphorical origins at some point in their history are grouped with more recent, living metaphors, the label ‘metaphor’ loses its force. Nonetheless, it must be acknowledged that any attempt to draw sharp boundaries between these categories is likely to be subjective.

In addition, I have not attempted to tackle the complex issue of how speakers perceive and process metaphors, although differences are likely. Some speakers are sensitive to figurative use, while others might consider all but the most innovative uses to be literal. It is not possible to consider this dimension of metaphor without extensive informant testing. I wished to focus principally on the examination of language use rather than language users, and for this reason my judgements about metaphoricity have been based on the semantic analysis of language in use rather than on judgements about its effects on speakers.

Finally, I have used numerical data in a number of studies, but I have not subjected them to detailed statistical analysis. I have only claimed that the results of my studies are significant where distinctions between senses and uses are so greatly different that raw numbers speak for themselves. This is because of the nature of the Bank of English, a monitor corpus, which is constantly evolving and therefore contains shifting proportions of different genres of texts. Other types of corpora, such as the British National Corpus, claim to be carefully balanced for genre and representativeness, and in examining them it may be defensible to look for statistical significance at a detailed level. However when examining a corpus

such as the Bank of English, which is far less finely tuned in its balance, it would be misleading to claim that any but the most clear-cut numerical results are representative of language use as a whole.

10.2.3 Further areas for investigation

There are a number of areas related to the studies described here which would merit analysis along the same lines. Firstly, the discourse perspective of metaphor (Steen, in press) has not been considered here. Points that would merit detailed corpus examination are the use of metaphor as a referential and cohesive device. It would also be useful to establish whether metaphors tend to cluster in certain chunks of texts, such as in introductions, headlines or summaries.

A number of small-scale studies of metaphor use in specific types of texts have been referred to in this thesis. These studies have tended to be ideological in focus and to concentrate on the subject matter or authorship of texts rather than the more general issue of register. It would be valuable to conduct a corpus-based examination of linguistic metaphors in texts chosen from a range of different registers, in order to establish whether certain registers are more likely to contain a greater proportion of linguistic metaphors, and to identify any register-specific metaphorical systems.

In the studies that form the basis of this thesis, I have considered words at an intermediate level of frequency, avoiding both extremely frequent and very infrequent words. This has meant that I have not dealt with delexical words such

as prepositions. In the literature on metaphor there is a substantial body of work concerning metaphorical uses of delexical words (for instance Lindstromberg 1996) which is an important issue and merits further investigation, and for which a corpus of contemporary English would be an invaluable resource.

10.3 APPLICATIONS

As I noted in the Introduction, the studies discussed here were initially inspired by questions which I asked myself as I attempted to describe English both as a teacher and as a lexicographer. In the course of trying to answer some of these questions, I have been led to investigate linguistic and cognitive issues at a level of detail which is far removed from the usual focus of the language classroom. In examining theoretical approaches to metaphor and applying them to corpus citations, I have attempted to develop a working model of linguistic metaphor for its own sake. However, in this section I will try to show briefly how the studies I have conducted can be used to throw light on my original questions. The studies are intended to be a contribution to language description, and their applications can be divided into language description for learners and native speakers of English.

10.3.1 Language description for learners of English

For speakers of other languages, acquiring an adequate vocabulary in English is an enormous task, the importance of which has only been recognised in the language teaching profession fairly recently (Gairns and Redman 1986, Nation

1990). Traditionally, much vocabulary learning has consisted of the memorisation of random or ordered lists of words together with their translation equivalents. If the task of vocabulary learning can be rendered more systematic and meaningful, the benefits to learners will be great. Grouping words into metaphorical systems is one way of introducing some systematicity into the process. Low has worked for a number of years on metaphor and language teaching (1988, 1996), and writers such as Bowers (1992), MacLennan (1994) and Lazar (1996) have considered ways in which knowledge about metaphors can be introduced into the second language syllabus. More recently, tasks to help learners become aware of the metaphorical qualities of their first language have been proposed (Deignan *et al.* 1997). The aim of these tasks is to help learners to recognise differences between metaphorical use in their first language and in English.

The studies described in this thesis can contribute to such projects as they provide a detailed description of some of the linguistic properties of some English metaphors. A number of the studies have already been used in the *COBUILD* reference guide to metaphors for learners of English (Deignan 1995). In the guide, frequent linguistic metaphors are organised by their source domains, the grounds for the metaphorical transfer are explained, and the target domain uses are defined and exemplified. Further developments could include the description of more metaphors, for instance in particular genres, and the development of open-ended tasks which require learners to examine and explore metaphors in use.

10.3.2 Language description for native speakers of English

Learners who are native speakers of English may also find the explicit discussion of linguistic metaphor stimulating and useful (Cameron 1991). In the traditional English language classroom, metaphor has been taught as a poetic device. A deeper awareness of the use of metaphor in other forms of discourse can help learners to become more aware of linguistic and persuasive devices used around them (Mey 1994). The discussion of the ideological use of metaphor and the studies which comprise Chapter Nine in particular have applications here.

Learners can be encouraged to explore texts to find out how a metaphor has been used to give an ideological stance the apparent status of shared wisdom. This will involve identifying linguistic metaphors, considering the evaluative orientation and connotations of their literal senses and attempting to determine to what extent these have been exploited in their metaphorical use. Such exercises can help to encourage students in fields such as language, media and social sciences to become more critical readers and thinkers. My discussions with several teachers and English-speaking students in Further and Higher Education suggest that they find exploration of metaphors from both linguistic and ideological perspectives interesting and useful. Language analysis for first-language speakers at this level has received relatively little attention within Applied Linguistics, and it is an area in which much research and development remains to be undertaken; the study of metaphor in particular seems to have promising educational applications.

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APPENDIX ONE: INFORMANT STUDIES ONE AND TWO

1. PURPOSE

1. To find out if there is variation there is between individual informants over estimations of distance between meanings of homonyms and polysemes.
2. To see whether informants would spontaneously suggest etymology as a criterion for judging closeness of meaning.
3. To elicit opinions about relationships between metaphorically-related senses of various lexemes from untrained native speakers of English.

2. INFORMANT STUDY ONE

2.1 Questionnaire instructions

The following explanation and instructions were given before the questionnaire items.

I am studying aspects of word meaning and would appreciate your opinion about a sample of words. For each word, I have taken two sentences from different contexts. (All the sentences are from real texts; i.e. they have not been invented for the purposes of this questionnaire.)

Please consider the meaning of the word in each of the two contexts given and then decide how closely related these are, using the following scale:

- a) identical meaning (any differences in interpretation are due to different contexts)
- b) the meanings are not completely identical, but are very closely related
- c) the meanings are different, but nevertheless there is a detectable relation of some kind
- d) there is not a clear relation between the meanings, but there seems to be some sort of link, of a very indirect kind
- e) there is no relation between the meanings

Please add comments if you can.

2.2 Items and examples

1. peer

Lord Swan was made a life peer in 1981.

He watched the customs official peer into the driver's window.

2. mouse

... a mouse running in a wheel in its cage.

Just place the cursor over the picture and click the right-hand mouse button.

3. grasp

He grasped both my hands.

The government has not yet grasped the seriousness of the situation.

4. rat

This was demonstrated in a laboratory experiment with rats.

What did you do with the gun you took from that little rat Turner?

5. flop

Bunbury flopped down on the bed and rested his tired feet.

The film flopped badly at the box office.

6. age

Perhaps he has grown wiser with age.

He had always looked so young, but he seemed to have aged in the last few months.

7. port

... the Mediterranean port of Marseilles.

he asked for a glass of port after dinner.

8. hunt

Detectives have been hunting him for seven months.

As a child I learned to hunt and fish.

9. take

She was too tired to take a shower.

Betty took a photo of us.

10. hamper

The bad weather hampered rescue operations.

... a picnic hamper.

11. warm

Wheat is grown in places which have cold winters and warm, dry summers.

She was a warm and loving mother.

12. nourish

The food she eats nourishes both her and her baby.

Journalists on the whole don't create public opinion; they can help to nourish it.

2.3 Reasons for selection of questionnaire items

The uses of two items, **peer** and **hamper**, are from different etymological roots and their modern meanings are unrelated. The uses of each pair are different parts of speech. The uses of **port** are etymologically related but their modern meanings are distant (Lyons 1977).

Two items, **mouse** and **rat**, are both instances of mapping from the field of animals but differ in that in the case of **mouse** the grounds for the mapping are denotation, in the case of **rat**, connotation.

For two items, **take** and **hunt**, it is not immediately clear whether there is one general meaning or two distinct senses.

Age was included to test sensitivity to part of speech; the uses are clearly related in meaning.

The other four items are linguistic realisations of well-known conceptual metaphors: **flop**, DOWN IS BAD; **grasp**, UNDERSTANDING IS HOLDING (Lakoff and Turner 1989, Sweetser 1990); **warm**, EMOTIONS ARE

TEMPERATURES; **nourish**, IDEAS ARE FOOD Lakoff and Johnson 1980).

2.4 Results

Letters have been translated into numbers: a= 1, b= 2, c=3, d=4, e=5. Items judged to be close in meaning have low scores, while items judged to be distant in meaning have high scores. N = 55.

Table 11.1 Results of Informant Study 1 in order of questionnaire.

item	mode	SD	mean
peer	5	0.483	4.85
mouse	4	0.793	3.87
grasp	2	1.232	2.84
rat	3	1.169	2.93
flop	2	1.08	3.2
age	2	0.809	2.0
port	5	0.705	4.7
hunt	1	1.003	1.9
take	3	1.105	2.4
hamper	5	0.297	4.95
warm	3	0.987	2.87
nourish	2	1.155	2.9

Table 11.2 Results of Informant Study 1 ordered from most distant to closest in meaning (mean scores)

position	mode	mean	SD	item
1	5	4.95	0.297	hamper
2	5	4.85	0.483	peer
3	5	4.70	0.705	port
4	4	3.87	0.793	mouse
5	2	3.20	1.08	flop
6	3	2.93	1.169	rat
7	2	2.90	1.155	nourish
8	3	2.87	0.987	warm
9	1	2.84	1.232	grasp
10	2	2.40	1.105	take
11	2	2.00	0.809	age
12	1	1.69	1.003	hunt

2.5 Informant comments on each item

1. peer

‘peerage- title implies status of looking from above on a structure of society ie at the tip of the organisation- vantage point= peer looking from a vantage point.’

‘There is a very indirect link as a life peer is given a responsibility to look over society, and the second sentence is also linked with sight.’

‘In some ways they are both watching something.’

2. mouse

‘A computer mouse is often mouse (animal) shaped especially when you consider the lead (tail).’

‘Obvious connection between lead and mouse’s tail.’

‘To do with shape, appearance rather than action.’

‘The computer term for ‘mouse’ is based on the animal so link is formed.’

‘There is a very indirect visual link.’

‘The computer mouse physically has the shape of a real mouse.’

‘A computer mouse is small and has a long lead (tail).’

‘Similar as the literal mouse has been used to make the shape of the other.’

‘The computer mouse is so called because of its shape.’

3. *grasp*

‘Different use but means similar thing- metaphorical and literal.’

‘There is a clear link as both are linked with getting hold of something, be it something tactile in the first or something mental.’

‘Same meaning; when I try to replace ‘grasp’ I only get ‘seize hold of’, or ‘clutch’ and they also describe ‘grasping’ a concept.’

‘Have same meaning, but one is physical and one emotional.’

4. *rat*

‘In being referred to as a rat the speaker is likening Turner’s characteristics to ‘rat-like’ qualities.’

‘First sentence literal, second sentence metaphoric- associations made about rats.’

‘Has to do with meaning/ views of rats- metaphoric.’

‘The boy is not a real rat but has rat-like qualities.’

‘It is association with the animal rat that has led to the second sentence.’

‘Rats are unpleasant creatures, ie Turner is unpleasant.’

5. *flop*

‘Both suggest ‘down’.’

‘Flopped in both sentences is used as being negative.’

6. *age*

‘Age is used as an abstract noun and as a verb.’

7. *port*

‘port= Oporto= Portuguese port.’

‘historical link, Portuguese.’

8. *hunt*

no comments

9. *take*

‘Tenses different, meaning the same.’

10. hamper

no comments

11. warm

‘Warm is a broad word.’

‘Warmth used to describe personality does not related to temperature but there is a popular link in common usage.’

12. nourish

‘Both are used for growth purposes.’

‘One is physical, one is more abstract.’

2.6 Responses to the final question

The question: ‘Do you think there can be any way of testing closeness of meaning independently of individual people's opinions? If so, what?’

‘No.’(three respondents)

‘No, not really.’ (two respondents)

‘I don’t know.’

‘This would be very difficult.’

‘No, everyone's opinion varies due to individual responses.’

‘No, not reliably as each person has own interpretations of meaning due to their own experiences.’

‘There can be no true way of testing meaning as a proportion of this can be attributed to upbringing and social background, ie regional varieties.’

‘Can only test closeness of meaning in the environment and situation of which a phrase is spoken or written.’

‘No except in the sense of what you have done.’

‘Only in a survey like this.’

3. INFORMANT STUDY TWO

3.1 Questionnaire items and mean scores.

Informants were asked to rank items from most similar to least similar in meaning. The following table shows the citations given as examples of each item, and the mean score, using the same scale as for Informant Study 1. In the table items have been ordered from those judged to be most similar to those judged to be least similar in meaning using the mean scores. N= 12.

Table 11.3 Items and mean scores from Informant Study 2.

rank	lexeme	examples given	mean
1	good	Exercise is just as important to health as good food. ... good quality furniture.	1.18
1	have	Have you any valuables anywhere else in the house? I want to have my own business.	1.18
3	neck and neck	The latest polls indicate that the two main parties are neck-and-neck. In the final of the 100 meters he dashed across the line neck-and-neck with his fellow American Harrison Dillard.	1.55
4	see through	...if you could see through the driving rain. He saw through their often silly attempts to con more money out of him.	2.09
4	flash	Lightning flashed among the distant dark clouds. A ludicrous thought flashed through Harry's mind.	2.09
6	heart	The bullet had passed less than an inch from Andrea's heart. ...a busy dentists' practice in the heart of London's West End.	2.36
6	frosty	...sharp, frosty nights. The relationship has obviously become frosty.	2.36
6	friction	The pistons are graphite-coated to reduce friction. Sara sensed that there had been friction between her children.	2.36
6	lift	She lifted the last of her drink to her lips. A brisk walk in the fresh air can lift your mood.	2.36
6	sink	The boat was beginning to sink fast. My heart sank.	2.36
6	coat	The front door needs a new coat of paint. He turned off the television, put on his coat and walked out.	2.36

12	above	Look at the people above you in positions of power and see what type of characters they are. He lifted his hands above his head.	2.45
12	queen	The king and queen had fled. ...the queen of crime writing.	2.45
14	machinery	The full state and police machinery ground into action. Farmers import most of their machinery and materials.	2.55
15	mouth	His mouth was full of peas. ...the town at the mouth of the River Dart.	2.64
15	blossom	Rain begins to fall and peach trees blossom. What began as a local festival has blossomed into an international event.	2.64
17	cook	She'll cook up a convincing explanation. We'll cook them a nice Italian meal.	2.73
17	hot	This has been a hot topic of debate in America since the Gulf War. When the oil is hot, add the sliced onion.	2.73
17	hot	What he needed was a hot bath and a good sleep. His hot temper was making it increasingly difficult for others to work with him.	2.73
20	padding	...the foam rubber padding on the headphones. ...the kind of subject that politicians put in their speeches for a bit of padding.	2.82
20	rat	This was demonstrated in a laboratory experiment with rats. What did you do with the gun you took from that little rat Turner?	2.82
20	down	The old man sounded really down. A man came down the stairs to meet them.	2.82
23	brow	He wiped his brow with the back of his hand. He was on the look-out just below the brow of the hill.	3.09
24	shallow	I think he's shallow, vain and untrustworthy. The water is quite shallow for some distance.	3.18
24	cool	The idea met with a cool response. I felt a current of cool air.	3.18
26	flowery	They were using uncommonly flowery language. The baby, dressed in a flowery jumpsuit, waved her rattle.	3.36
27	itchy	The thought gave me really itchy feet so within a few days I decided to leave. ...itchy, sore eyes.	3.45
28	screen	Most of the road behind the hotel was screened by a block of flats. The series is likely to be screened in January.	4.64
29	page	The two women were never alone, always moving in a crowd of pages, servants... He turned the pages of his notebook.	4.82
30	bank	Students should look to see which bank offers them the service that best suits their financial needs. ... an old warehouse on the bank of a canal.	4.91

3.2 Informants' comments

Items are given in the order in which they appeared in the questionnaire.

heart

'The biological and topographical meanings appear different but each allude to the underlying idea of centrality or crux.'

'The heart of an area has an emotive link to the human heart as a spiritual centre.'

'Both hearts indicate central location.'

'Second example of a metaphor for the anatomical heart- organ, not position.'

'First heart an organ of the body. Second meaning centre. Heart seen as centre of the body.'

'The first is the physical object, which is seen as the centre of someone emotionally, the second is a physical centre.'

'The heart is an organ in the second case it means the centre or busiest area of a city. The link is that both imply the centre.'

'Heart in the second sentence refers to the centre. The relationship between the two sentences comes from the way people feel the heart is the centre of the body.'

frosty

'Apparently different meanings refer to a related underlying meaning through a conventional metaphor.'

'The second frosty is meant in a negative sense but a frosty night may be exhilarating.'

'Cold, just cold.'

'The second example equates to cold, but not a specific temperature (ie below 0C).'

'Link is cold as in weather physical and relationship metaphorical.'

'The first is physically cold, the second a metaphor- harsh, without warmth.'

'Cold is implied in both however relationships are emotional therefore cold is used metaphorically.'

'Emotional/ physical cold- emotional scale corresponds to physical one from frosty to heated.'

good

‘Relatively uncomplicated qualifiers.’

‘Both uses of good exclude existing goods of poorer attributes.’

‘Identical quality.’

‘Good food= nutritious.’

‘Meanings appear the same.’

‘1. implies health concerns, 2 implies taste and longevity.’

‘Exactly the same meaning.’

screen

‘These verbs project oppositional meanings.’

‘1. Hidden. 2. Shown’

‘Two totally different meanings.’

‘Almost opposites, screened meaning hidden and also shown.’

‘Screen- something that hides and screen onto which a picture is projected.’

‘1. means or implies that the flats were obstructions. The second implies broadcasting onto a screen.’

‘Almost opposite meanings- ie hidden behind a screen as opposed to what's shown on a screen.’

above

‘Otherwise identical meanings here. The first is obviously metaphorical.’

‘The first above is a perfect, instantly recognisable metaphor for the physical act.’

‘In this context, above is above.’

‘Physically above and metaphysically.’

‘The first is above in authority- ie has more of, hierarchy; the second literally above, up from.’

‘The link is that hierarchies are visualised and spatially.’

‘Hierarchies tend to be visualised mentally as a set of steps or similar structure, even written down in guides to organisations in diagram form, so it seems logical.’

neck and neck

‘Current usage, having forgotten the original is such that these are near as dammit identical.’

‘Only the physical act separates these meanings.’

‘An exactly similar description of context.’

‘Second usage here literal- but I assume the phrase is originally from HORSE racing.’

‘Neck and neck is metaphorical in 1 and literal in 2.’

‘Neck and neck indicates a race- in the second example it's obviously literal.’

cook

‘Not a popular metaphor because to cook is good but to cook up is deceitful.’

‘Both activities are the same- one decisive, the other gastronomic.’

‘Cook a meal and also to make up.’

‘Both are about creating something from either words or ingredients which is designed to convince or please.’

‘The only connection is invent, make up.’

‘Cooking involves taking ingredients and changing them into something else only first sentence there's a negative sense of cook in make something up.’

friction

‘If there is no direct link there is again a figurative one.’

‘The description of friction between humans has been used so often it has become a separate word.’

‘Both relate to the generation of heat.’

‘Heat caused by rubbing together. Heat in relationship.’

‘Both to do with rubbing, the first physical the second emotional, between two objects or people, causing unwanted heat or emotion. They both seem to be forces, one physical, the other emotional, something which can be felt or sensed.’

‘Again one is literal one metaphoric.’

‘Physical friction causes heat. Friction is nearly always used in sense of reduce I think.’

padding

‘Though one is for comfort and the other is hot air they are both used to fatten out.’

‘Positive similarity.’

‘A physical pad which makes the headphones more comfortable; subject matter which makes the message easier to receive, but also to make the speech longer, a rhetorical device.’

‘Padding makes things more comfortable so there is a relationship between physical and emotional comfort.’

page

‘Two separate nouns.’

‘Can't see a connection at all unless both are small components of a whole.’

‘Different meanings- servant and leaves in a book.’

‘Servants and paper.’

‘This time 2 is literal and 1 is metaphoric.’

‘No relationship at all.’

machinery

‘Quite literally, the police do bring actual machinery into the streets!’

‘The meanings have been further separated by the second example being plural.’

‘Similar motion.’

‘Machinery means any method of doing things- it's not a metaphor it's a different kind of machinery.’

‘Physical farm machinery and as in organisation linked together.’

‘Administrative and executive operations which all work together like a machine such as farm machinery, getting a job done.’

‘Metaphor/ literal again.’

‘Metaphorical machinery depersonalises actions- ie part of a machine- it's usually threatening in some way. Also indicates efficiency like literal machinery does job better than people.’

queen

‘P.D.James may not have inherited her position but the convention is generally understood.’

‘As the queen is the principal woman.’

‘Important persons.’

‘Similar meanings as first lady.’

‘A female figure of authority respect etc a female writer who commands respect and acclamation in her field of literature considered to be the best. Both top female figures.’

‘Used in the sense of ruling over a domain- ie crime writing is the country she rules.’

flowery

‘They both achieve the same effect. A macho man would not wear a flower-decorated

top.'

'Identical.'

'Example two is literally flowery, 1 is decorated.'

'Over elaborate language.'

'Elaborate fancy not everyday; a jumpsuit with a pattern of flowers on it- linked by the sense that they are not plain.'

'Metaphorical flowery is the sense of overblown doesn't really correspond to physical flowery because 'flowery jumpsuit' has no sense of too many flowers just indicates it has flowers on it.'

lift

'The mechanics of the first example though rising do not imply any suggestion of spiritual lifting.'

'Almost identical.'

'Raised.'

'Up is a positive direction.'

'Raise physically and metaphysically.'

'Both are about moving up; the first physically the second metaphorically.'

'Physical and emotional uplifting. Corresponds on same scale from sunk in depression and high as a kite.'

rat

'The second rat is detestable but the former is just an animal. The link is inherent in us.'

'Human reference to unpopular rodent.'

'A rat is a despised animal- also applied to a person.'

'An animal with a bad reputation with which people with bad reputations have become synonymous.'

'Real rats are hated as much as metaphorical ones/ people seen as vermin called rats.'

hot (topic/ temperature)

'The popularity of the first example demands the same attention as the care needed with hot oil.'

'Temperature.'

'Metaphorical active contentions- physically hot.'

'Hot can mean exciting or dangerous- its literal meaning is very specific as opposed to its

metaphorical meaning.'

bank

'The connotations of the first use of the word have grown to an awesome level.'

'Slim relationship.'

'Different meanings- commercial bank and edge of river.'

'Financial institution. Side of a waterway.'

'No similarity.'

'No relationship between two meanings.'

shallow

'I have never perceived shallow to be a particularly effective metaphor.'

'Both lacking depth, one in personality, the other physically, in water.'

'Metaphor/ literal.'

'Emotional scale of character judgement from shallow to deep- you can see through shallow water.'

down

'Coming down the stairs is not as pessimistic as being down in the dumps. Descent is the link.'

'A simple reference to descent in each case.'

'Down emotionally- in low spirits- adjective. Downwards movement from high to low adverb?'

'Metaphor/ literal.'

'Metaphorical down is always negative perhaps from descending into hell. Physical down isn't.'

brow

'Figurative hint.'

'There is a physical difference.'

'No difference.'

'Probable link- top or near top of hill and head.'

'Forehead- top of face; top of hill. Both curved and at tops of things.'

'Both mean near the top.'

'Physical similarities- ie brow is near top of head and hill.'

sink

‘Both emphasise loss of control.’

‘We all go down together.’

‘Dropping.’

‘Go down physically. Go down metaphorically not literally- a sinking feeling.’

‘Literal/ metaphoric.’

‘Physical and metaphorical. Sinking is always negative.’

have

‘This could be a straightforward possessive case.’

‘They are both possessions.’

‘Possession.’

‘Own/ possess.’

‘I could see that keep could go in both but own couldn’t. In the first have means have you put.’

‘Meaning own in each.’

‘Both about ownership.’

‘A business is not tangible like valuables but the idea of having something whether an object or institution power ownership is similar.’

‘Same meaning- ownership.’

see through

‘Figurative again.’

‘These perceptions are almost identical.’

‘Just perspicacity.’

‘See through- vision. See through- understanding, insight, seeing beyond what you see first.’

‘literal/ metaphoric.’

‘See through in sense of understand- metaphorical.’

***hot* (temperature/ temper)**

‘A hot temper is closer to a heated debate or near boiling oil. A hot bath is pleasant.’

‘Thermal.’

‘Physical and metaphorical. Molecules moving quickly, heat fire- active, easily ignited.’

‘Literal/ metaphoric.’

‘Physical hot can be either negative or positive. Metaphorical hot usually negative.’

coat

‘Though both cover, an overcoat is an item in itself.’

‘Common covering.’

‘Covering.’

‘Coat= a covering. Would assume second example was the first use of the word.’

‘Link is covering.’

‘A layer of paint, layer of clothing- item of clothing. Something which covers.’

‘Both mean covering.’

‘Coat covers the outside of person or door.’

itchy

‘The first is restless, the latter is a definite condition.’

‘The need to move- not literally itchy as in the second meaning- irritated.’

‘Not metaphorically connected to itchiness which implies irritation.’

‘First meaning is that you can't ignore an itch- same impulse you have to act on- usually temptation. Corresponds to its physical meaning because it's a physical thing you have to do. Itchy feet means you have to walk. Itchy eyes can't be ignored.’

flash

‘Both appeared suddenly, without warning.’

‘Illumination.’

‘Transience.’

‘A quick movement of light- on/off. A sudden idea appearing in the mind but the impression stays.’

‘Literal/ metaphor.’

‘Flash is the sense of speed and being gone as soon as it's seen or perceived- literal/ metaphorical correspond quite concretely.’

cool

‘The first cool could be easily substituted with cold. The second is not a negative expression.’

‘Chilly.’

‘Metaphor/ literal.’

‘Again emotional scale from warm to cool corresponds with literal meaning except cool a bit of a problem because it's often inverted like wicked etc.’

mouth

‘Figurative’

‘They are both entrances but are still separate entities.’

‘It's a problem where one word originates from another and was the same but is now different.’

‘One entry/ one exit.’

‘Opening.’

‘Similar in a way- both entrances.’

‘Both openings/ starts. The start of the alimentary canal and the start of a river, where water enters a channel to make a river.’

‘Both imply an opening.’

‘Mouth of a river or a person implies an opening.’

blossom

‘Events don't suddenly sprout flowers but the meanings are close as damn-it.’

‘Blossom- flowers- also grown and spread as blossom on a tree.’

‘Flowers opening up and developing/ growing making the tree more beautiful/ An event

which grows and develops, becoming something better.’

‘Literal or metaphorical meaning- both imply a natural increase.’

APPENDIX TWO: CORPUS STUDIES

This appendix consists of a list of the corpus studies from the Bank of English, followed by extracts of 20 citations from the concordances examined in each of the studies.

1. BANK OF ENGLISH STUDIES

Study	Lexeme(s)	Number of citations studied	Chapter and section where discussed
Study 1	cancer+of	100	1.3.4
Study 2	grasp grasps grasped grasping	500	1.4
Study 3	Linguistic metaphors from the field of horse-racing	all citations of 12 lexemes from the field	1.5.2
Study 4	Linguistic metaphors from the field of bodily sensations and processes	all citations of 9 lexemes and lexical phrases from the field	2.4
Study 5	heated	500	2.5
Study 6	heavy	1000	3.4, 3.5, 3.6
Study 7	good	200	3.4
Study 8	hunt hunts hunted hunting	200	3.4, 3.6
Study 9	cowboy	200	3.4
Study 10	small+town	200	3.4
Study 11	palace, mansion	200 of each	3.5
Study 12	hotter	400	3.5
Study 13	deep	200	4.3, 4.5
Study 14	machinery	500	4.5
Study 15	starve starves starved starving	500	4.5
Study 16	shreds	400	5.4.1
Study 17	fire burn and related lexemes	1000 each of fire and burn including inflections. All citations of related lexemes.	5.4.1
Study 18	sighted	1000	6.2.2
Study 19	hot	1000	6.3.2
Study 20	cold	1000	6.3.3
Study 21	warm	1000	6.3.4
Study 22	cool	1000	6.3.4
Study 23	deep shallow clean dirty sour sweet	200 of each	6.3.5
Study 24	tool and hyponyms	1000 of tool and tools .	6.4.5

		All citations of hyponyms.	
Study 25	disease, sickness, hyponyms and related items	1000 each of disease and sickness . All citations of hyponyms and related items.	6.4.5
Study 26	auburn	449 (all citations in corpus)	7.1.2
Study 27	problem	1000	7.1.2
Study 28	blow (noun)	1000	7.2, 7.3, 7.4
Study 29	lean (adjective)	1000	7.3
Study 30	pay pays paid paying	1000	7.2, 7.3
Study 31	deep	1000	7.3, 7.4
Study 32	shoulder, shoulders, shouldered, shouldering	1000	8.2
Study 33	hearted heart hearts	2700 (all citations) of hearted , 1000 citations of heart and hearts together	8.3
Study 34	shred shreds shredded shredding	1000	8.4
Study 35	Linguistic metaphors from the field of animals	All citations and inflectional and derived forms of 21 lexemes	8.6
Study 36	Linguistic metaphors from the field of cooking (verbs)	All citations and inflectional and derived forms of 5 lexemes	8.7
Study 37	fit lean trim bloated flabby slim overweight	All citations and inflected forms	9.4
Study 38	thin lean slim slender skinny	All citations and inflected forms	9.5

2. CORPUS EXTRACTS

Study 1: cancer+of

1.	longer, Burma would remain a	cancer	of instability and would
2.	is crumbling, the victim of the	cancer	of its own mistakes, and
3.	day. <p> QI HAVE been fighting	cancer	of one lung for the past 12
4.	herself to be destroyed by the `	cancer	of racism' she should
5.	its complacency regarding the	cancer	of racism and determines to
6.	patients with newly- diagnosed	cancer	of the breast, bladder,
7.	Logan himself had contracted	cancer	of the jaw and was thus
8.	the treatment of breast cancer,	cancer	of the uterus and an unusu
9.	is made that women who contract	cancer	of the cervix are usually
10.	serious about the prevention of	cancer	of the cervix, as opposed
11.	<p> After a five-year battle with	cancer	of the liver and pancreas
12.	told she has Hodgkin's disease, a	cancer	of the lymph glands and is
13.	BY SMOKING </h> <p> amblyopia,	cancer	of the nose and throat,
14.	on the ovary. It protects against	cancer	of the ovary, cancer of the
15.	(cervix). <p> bull; What is pre-	cancer	of the cervix? <p> bull;
16.	that a smear test can detect	cancer	of the cervix usually years
17.	sachets increases the risk of	cancer	of the mouth. <p> <h> Is
18.	<p> <h> Does the Pill cause	cancer	of the cervix? </h>
19.	er I had er radical carcinoma	cancer	of the breast which was
20.	for Hodgkin's Disease - a	cancer	of the lymph glands. this

Study 2: grasp grasps grasped grasping

1.	But investors are also belatedly	grasping	a stark fact: on most
2.	it, mindless" it would be easier to	grasp	as the manifestation of a
3.	the headman's hand snaked out,	grasped	Charlie's hand. Charlie
4.	among Liberal leaders. <p> He had a	grasp	for detail which surpassed
5.	to my mother, will you?" as she	grasped	her hands so tightly that
6.	out today it is not yet within our	grasp	. It's time, as many of you
7.	<51> through the traffic. He	grasped	me by the hand and, as I
8.	out for its clarity and historical	grasp	; meanwhile, William
9.	the waist or upper arm. If you can	grasp	more than an inch of flesh
10.	Despite Sir Harry's perceptive	grasp	of the importance of scien
11.	a better, though rarely complete,	grasp	of the legal hazards.
12.	scientists do not have a good	grasp	of exactly what goes on
13.	At first he seemed unable to	grasp	quite what was going on,
14.	was glimpsed, nor with a firm	grasp	that it could be held. <p>
15.	his third in as many Tests. <p> By	grasping	the last hardy nettle of
16.	public. Simultaneously Boswell has	grasped	the play's comic element
17.	says. `It's about time we	grasped	the nettle because if we
18.	to forego advantages within our	grasp	. The behavior of the
19.	sort of visual epigrams. You--you	grasp	them very--very quickly.
20.	principles today's cooks need to	grasp	. This is less of a recipe

Study 3: Linguistic metaphors from the field of horse racing

1. Three of the major studios were **in the running** to buy him out.
2. This year five riders will be **in the running** on Monday
3. He appeared to have ruled himself **out of the running** for the post.
4. One other fancied contender is **out of the running**.
5. Most of **the running** in this campaign **has been made** by the novelist Mario Vargas Llosa.
6. I remember thinking "oh my God" as Lester jumped out and **made the running**.
7. Jesse Helms, the arch-conservative Republican senator in North Carolina, was running **neck and neck** with his black Democratic challenger, Harvey Gantt.
8. Seconds earlier Go For Wand was in full flight, **neck and neck** with Bayakoa in the Breeders' Cup Distaff.
9. ...reforming Britain's **first-past-the-post** method of electing MPs to Westminster.
10. Whitehead, with wife Michelle, owned Prince Regent, **first past the post** in the 1988 Magic Millions.
11. Six months ago Mr Serrano registered only 1 per cent of the vote in opinion polls and was being discounted as an **also-ran**.
12. One called Martina, a 7-2 second favourite, trailed in among the **also-rans** in the Lion Lodge Handicap at Chepstow yesterday.
13. He is 6-1 **favourite** for the Derby.
14. The Democratic camp is now trying to keep it under wraps despite Clinton, 46, being the clear **favourite** to become president on November 3.
15. Education minister Baroness Blatch is regarded as the rank **outsider**, although still highly regarded by Mr Major.
16. McKee, 56, who trains in partnership with his son Stephen, 31, was unplaced on rank **outsider** High Stakes in the 1953 Auckland Cup when he was a jockey.
17. Lara made a mockery of the bookies' 9-1 **odds** against him plundering a century off Glamorgan.
18. I came back very much enlivened by seeing people working totally against the **odds** with immense commitment in a very difficult climate.
19. If a casino offered you comparable **odds** they'd be closed down.
20. You feel helpless, in the face of overwhelming **odds**, to do anything about the stress you are experiencing

Study 4: Linguistic metaphors from the field of bodily sensations and processes

1. Ted had **swallowed** a good deal of the fashionable interpretation of what had gone wrong in the world between the wars.
2. The lips and mouth appear to be stained from **swallowing** a corrosive substance.
3. John Major was forced to **swallow** not just his words but his pride.
4. It was vital that he, of all people, **swallow** the story.
5. We are still trying to **digest** what has happened.
6. His nephew **digested** this new piece of information.
7. The ability to **digest** starches and carbohydrates will be affected.
8. He admits that "several friends **turned their back** on me."
9. Ms Jackson had **turned her back** on the movies for ever
10. I **put on a brave face** for Hilary when I went in to see them both.
11. The European Community is **putting on a brave face** as the week-long GATT talks open in Brussels today.
12. Throughout the discussion she had been **biting her lip**.
13. We suffered any injustices or indignities in silence. You just had to **bite your lip**.
14. The world was able to **breathe a sigh of relief** that the leaders in the Kremlin had proved, not fanatical ideologues, but rational pragmatists.
15. Frank stirred and both rescuers **gave a sigh of relief**.
16. ... local government without a meddlesome state government **looking over its shoulder**.
17. She was always afraid, **looking over her shoulder**, lest she go too far and be pulled viciously back.
18. At a bar called Apocalypse Now, businessmen **rub shoulders** with tourists and the occasional United Nations soldier from neighboring Cambodia.
19. When all the crowd were getting so excited I **felt a shiver down my spine**.
20. When a psychic's prediction comes true, it can send a **shiver down the spine**.

Study 5: heated

1. to public relations wars to **heated** accusations from both sides
 2. Both players were involved in **heated** arguments with officials over
 3. section that contains hot air **heated** by propane burners. <p> At
 4. a tape- recording of the often **heated** conversations between Indian
 5. the Manx Parliament conducted a **heated** debate on decriminalising gay
 6. have tended to break down into **heated** exchanges. There's expected
 7. exercise as a large amount of **heated** glass is needed to bring them
 8. This has been an incredibly **heated** issue in the party, drawing
 9. water is liquid, but when **heated** it becomes vapour and when
 10. yesterday were involved in a **heated** live debate on French tele
 11. moved the tattoo with a knife **heated** on the kitchen stove. Given
 12. the agency has grown more **heated**. On February 4th senior
 13. over the top and bake in a pre-**heated** oven for 1 3/4 to 2 hr. Cover
 14. hibitively expensive, a small **heated** pool would be a very pleasant
 15. spoon of oil. When the oil has **heated**, put in the remaining chopped
 16. a negative effect. A centrally **heated** room can have relative humidi
 17. basal cuttings of the plant in **heated** propagator from mid to late
 18. hot # stirring gently until **heated**. Scatter over the spring
 19. was behind schedule. A **heated** telephone exchange between
 20. its carbon dioxide. And Venus **heated** up, suffering a runaway green

Study 6: heavy

1. the shipment of American tanks and **heavy** artillery. And the TIMES
 2. to information? Tired of carrying **heavy** books on business or leisure
 3. 0181 910 1400. Man's watch print **heavy** cotton shirt # pound; 125,
 4. within a week in patients taking **heavy** doses. The journal of the
 5. like those made by the passage of **heavy** guns. So where the hell were
 6. rassment. She may be just a little **heavy**-handed. When she posed in
 7. carrying of the boat with such a **heavy** heart. I hope nothing comes
 8. the ankle. Hard, so it hurt, with **heavy** hiking boots. He hadn't
 9. economic plans gave precedence to **heavy** industry at the expense of
 10. the Atlantic, 1,100 miles east. **Heavy** investments are needed to
 11. was extraordinary. Thick and **heavy**, it spread over the room
 12. Sarajevo radio is reporting that **heavy** mortar fire landed today on
 13. from Czech lands still hangs **heavy** over the relationship
 14. with the rest of the country. **Heavy** rain and snow has caused
 15. of steaming mud, loosened by the **heavy** rains. <p> An official said
 16. Jaffna Peninsula have experience **heavy** shelling in the last few
 17. 20 Bosnian army troops trapped by **heavy** snow. There were no injuries
 18. search was being hampered by the **heavy** snow. <p> <sh> Violent </sh>
 19. moved down over 17 points in very **heavy** trading. This is NPR News.
 20. polio vaccine as a suspension in **heavy** water. Scientists who have

Study 7: good

1. on wine and drink. Mr Gregory **good** afternoon to you. <M02> Good
2. play on all kinds of courses--**good** and bad--with all different
3. up to buy a flute. She is not **good** at PE". She used to be quite
4. National, and also landed four **good** bream, best 5 lb, and two
5. nning the branch and state was **good**, but it was a lot harder at
6. it just because they are jolly **good** chaps. British lawn tennis is
7. English if you like. I talk **good** English. You don't look too
8. and successful. I'm rich and of **good** family. Who else can match
9. twelve-year-old girls with **good** features happily vied to beat
10. <p> Boots also had a **good** festive season, unlike
11. polling stations. Mr Rao has **good** ideas for economic reform, but
12. generally done a pretty **good** job on a number of aspects,
13. of getting a job done." A very **good** job too, the sharpness of the
14. a garden fork and fill it with **good**, leafy soil. Keep it wet and
15. Red Barber, commentator # **Good** morning, Colonel. And how was
16. David Hunt hailed it as **good** news for our young people in
17. her hands in his. `It is **good** of you to have come so
18. ideas and which we have **good** reasons for thinking are
19. music, cinema, theatre, **good** restaurants. Photo essential.
20. doorstep had been worn down a **good** two inches by the clogs of

Study 8: hunt hunts hunted hunting

1. leadership not to `join the witch-**hunt**" against the unions. `Let's
2. 30 broody bitches from the Exmoor **hunt** at Winsford, Somerset. It
3. riot gear. A nationwide police **hunt** is continuing for Alan Lord,
4. John Redwood has reversed David **Hunt**'s support for industry by
5. would be very helpful to us. Let's **hunt** for her # The hotel was large
6. with the fanaticism of a witch **hunt**. The literature of this sort
7. governor of North Carolina, James **Hunt**, has asked the legislature to
8. ATTEND the Puchestown national **hunt** festival in Ireland in April
9. Morgan, who is leading the murder **hunt**, said last night that he
10. ordered a retrial. <p> <h> Death **hunt** doctor is held after chase in
11. correct. <p> Team them in a **hunt** for a terrifying serial
12. smugglers. Last December they **hunted** down and killed one of the
13. tribe fished in the bay and **hunted** the small mammals and water
14. they were the 10,000 most anti-**hunting** people in Britain, but
15. week by 44 to 31 against a ban on **hunting** with hounds on its 11,800
16. that they continued to allow **hunting**. <F01> <tc text=laughs>
17. his beanbag and he was still **hunting** for it when everybody else
18. political. <p> <f> because legal **hunting** funded a game department w
19. care and home safety to job **hunting**. choose one of the
20. -engined cars are good bargain-**hunting** grounds. <p> Rover's brand

Study 9: cowboy

1. but I truly want to be a Dallas **Cowboy**". <p> The 49ers, normally
 2. performances from David Keith as a **cowboy** and Steve Coogan (seemingly
 3. 's when the real fun of being a **cowboy** begins. <p> Baxter Black
 4. to reveal their names. Robert ` **Cowboy** Bob" Dixon was killed in a
 5. Love Removal Machine # a pair of **cowboy** boots clip-clops ominously
 6. led by a 10-year-old boy wearing **cowboy** boots, but many of the boat
 7. off his new Lone-Star-design **cowboy** boots), was in Washington
 8. Stanley Waobikeze </h> <p> A **COWBOY** cabbie was cleared
 9. windows, gummed ajar with paint by **cowboy** decorators, did not emerge
 10. track towards the cattle yards, **cowboy** hat pulled down low over
 11. off the neck, sun off the face. A **cowboy** hat could put out fires or
 12. the customer rather than the **cowboy**. It requires the legal
 13. --the--the string music, sort of **cowboy** music, western swing music.
 14. at Mr. Lee didn't understand `the **cowboy** mystique" of Montanans and
 15. replied: `I'm looking for that **cowboy** near the end." <p> What did
 16. <p> There is also concern that **cowboy** operators could get the
 17. pants?" Henry looked down. The **cowboy**-patterned legs, which he
 18. berserk baggage handlers, **cowboy** taxi drivers and strict
 19. AAPSPORT The $ 46m **Cowboy** THE Dallas Cowboys
 20. study, telling me the story of a **cowboy**. Up the creaking, groaning

Study 10: small town

1. murder leads to a lynching in a **small town**. <p> When Lana (newly
 2. Frimkley, Surrey. Location: **small town** <p> Description: Tree-
 3. like tale of dark deeds in **small-town** America, was shamefully
 4. will weaken their resolution: **small-town** bankers, insurers and
 5. heroine, a weather presenter on **small-town** cable television who wants
 6. charts his meteoric rise from ` **small town**' country singer to top
 7. Madness and The Jam's tales of **small-town** experiences and
 8. have still been playing **small-town** gigs for as little as
 9. enormously satisfying for the **small-town** grocer's son. The matter
 10. spent six weeks living in a **small town** in this bible-bashing
 11. In a symbolic ceremony in a **small town** in Nicaragua, Contra rebel
 12. it had been a policeman from a **small town** in India, he would have
 13. newspapers. It concerns a **small town** in Portugal, Escorial. An
 14. celebration that began in the **small town** of Spoleto, Italy, in
 15. Noah Adams, host: <p> In the **small town** of Great Barrington in the
 16. The house was just outside the **small town** of Cranston. Dorothy had
 17. roots. Ted was born in the **small town** of Jerome, Michigan, in
 18. Internet, were arriving in the **small town** of Jordan, about 30 miles
 19. a foot in northern Iraq, a **small town** on the Texas-Oklahoma
 20. Arturo Garcia-Mendez in a **small town** outside Havana 39 years

Study 11: palace, mansion

1. modest properties creating a **palace** in its midst will be self-
2. in 1940-flew low over Buckingham **Palace**, watched by the Queen and
3. shed on the matter by Buckingham **Palace**. Yes, they were handling
4. seen # says the former Crystal **Palace** midfielder. <p> It's just
5. Sheffield, Gateshead and Crystal **Palace**. <p> But there is still
6. Mr Preval in the presidential **palace** on 7 February. <p> Mr
7. the floorshow at Caesar's **Palace**. Then again, this was a
8. leaders; the tsars had a summer **palace** there and it was in the
9. the smoke that hung round the **palace**. <o> Glancing back at the
10. be doomed to virtual slavery to **palace** tradition and continual
11. Nortons - nearby Norton Conyers **mansion** is part of the same
12. Doe's fortiified Executive **Mansion**. West Africa correspondent
13. the part of mistress of a grand **mansion** if she chose. It would be
14. the night in the Beverly Hills **mansion** of our current exchangers,
15. after one of her visits to his **mansion** in Yellow Brick Road,
16. her five-bedroomed West London **mansion** for £ 1 million
17. I was told in the company's **mansion** overlooking Trieste's own
18. after his death. His sprawling **mansion**, Reynolda House, holds one
19. in a $ 3 mil lion Toorak **mansion**. <p> His horse Hyperno won
20. though it was part of a Victorian **mansion** in Cheshire and was

Study 12: hotter

1. differently when they become **hotter**. <p> What makes any metal
2. All day it goes on like that: **hotter** and hotter, bluer and bluer,
3. very light blue, the sun gets **hotter** and hotter, though not as
4. June continued into July and got **hotter** as the month progressed.
5. and the summer seemingly getting **hotter** by the day, I've been
6. vapors are more volatile during **hotter** daytime hours than cooler
7. both sides: `It is going to get **hotter** for me next season, with two
8. the feet in water a few degrees **hotter**. If a regular bath is used,
9. the sun's rays grew stronger and **hotter**, increasing amounts of water
10. hot water always get very much **hotter** once I have turned on the
11. who qualified earlier in a **hotter** part of the day, was second
12. 990F in Gloucestershire - was **hotter** still. Many scientists
13. at each other. Vogts, who thinks **hotter** tempers may help wind his
14. machines . <p> It's keeping them **hotter** than they used to be in June
15. ballet and flamenco. Altogether **HOTTER** than Swan Lake - call
16. High fibre </h> This dish is **hotter** than the Eggs With Coconut
17. Centigrade, making the world **hotter** than at any time in the last
18. nearly as red in colour but far **hotter** than the commercial Per
19. keep swimming - in outdoor pools **hotter** than any bath. <p> When
20. it was hot. It burned and grew **hotter**, touched his blood. The fire

Study 13: deep

1. of their attention, he drew a **deep** breath and continued. Our
2. simple blinds. They then chose **deep** blue tiles for the worksurfaces
3. does not envisage the kind of **deep** cuts that the Republicans want.
4. Alison Edwards suffered three **deep** cuts in her face when she
5. to--to say that we're still in a **deep**, dark tunnel of despair. But I
6. is life? So they have this very **deep** debate about it but more
7. squabbles over leadership and **deep** divisions over tactics. Some
8.

It made me believe **deep** down I could win again but mid-
9. partly due to the two men's **deep** emnity. Mr Blaney had refused
10. them with strong feelings and **deep** emotions. When researching
11. In fact, he didn't go off the **deep** end at all. He just said it
12. cordiale. Before long, we were **deep** in conversation with a retired
13. There's a look of melancholy, a **deep** inner wariness in his
14. bell tied inside its door and a **deep** odor of hot glaze and butter
15. population which retains its **deep** resentment of the Sri Lankan
16. They all nevertheless express a **deep**-seated archetype of holiness or
17. the will which recognizes one's **deep** self in all the elements of
18. will serve him better in **deep** snow. God forbid he should get
19. 90 MINUTES are to be sent into **deep** space in an effort to counter
20. notion that IBM's problems run **deep**. Two of the disclosed hitches,

Study 14: machinery

1. where heaps of old agricultural **machinery** and implements would be
2. you get them to share piece of **machinery** and he said I'll buy it
3. to dissolve them from pumping **machinery** and pipes. All water can
4. including plant facilities, **machinery**, and equipment. Greater
5. woodwork, barrel-making, vintage **machinery** demonstrations, louts
6. little scrap of molecular **machinery** (DNA) is the ultimate
7. and fatstock. One of the **machinery** exhibits was a new high
8. the aim is to make post-Cold War **machinery** fit post-Cold War prior
9. on television commercials. The **machinery** of publicity makes the
10. In the former Soviet Union the **machinery** of repression was
11. insists Mr Ferrini. `The **machinery** of selling includes
12. murdered as part of the **machinery** of State Sanction built
13. overplayed his hand.

The **machinery** of terror, administered
14. I had a sensation as of **machinery** running, and felt as if I
15. is crushed under the weight of **machinery**." She believed that five
16. with the largest selection of **machinery**, specialist tools,
17. Before long, improvements to **machinery** that originated in
18. been removed, and because the **machinery** used is too heavy for the
19. negotiation and consultative **machinery**. We set an example from
20. in November orders for new **machinery** were down by 6.9 #

Study 15: starve starves starved starving

1. the hunger of someone who's **starving.**" I straightaway pointed
 2. he simple reasoning that they were **starving** and could get a little
 3. and Croats were tortured, shot and **starved.** Atrocities were also
 4. of her veggie burgers to the **starving** Bosnians. Just after she
 5. only 5 per cent of the oxygen-**starved** cells survived. But with
 6. produce sarin # were seized and 50 **starving**, drugged women were
 7. Chicken wings. And Anastasia was **starving.** Her stomach rumbled. She
 8. village there was an old woman who **starved** herself to give what she
 9. to have international sanction to **starve** him into surrendering his
 10. this meant he was frequently **starved** of weapons as a result.
 11. selection in Athens where I was **starved** of English reading. <p>
 12. punishing poor children, kids are **starving**, people can't stand it."
 13. in Somalia is to deliver food to **starving** people, not to disarm
 14. who could, in the name of the **starving**, raise the demand that
 15. like animals, if one human being **starve**, that cuts down the value
 16. foreigners would be the first to **starve.** The ambassadors were also
 17. Wednesday." By that time we could **starve** to death!" Linda
 18. ld that had been living on refuse **starved** to death (reported in
 19. sort plan SUVA: Fiji's investment-**starved** tourism industry has
 20. partition, the dispossessed will **starve** unless aid is forthcoming.

Study 16: shreds

1. out of his pocket, twisted into **shreds** - a fate that also overtook
 2. that they start tearing her to **shreds.** And to me Margaret
 3. cabbage or lettuce into fine long **shreds** and divide between 4
 4. England's meagre total was torn to **shreds** and, later, the Sri Lankans
 5. third. <p> His running tore QPR to **shreds** and he took a Waddle ball
 6. Crook worried each question to **shreds** as he walked aimlessly
 7. ever made. His voice was in ragged **shreds** by the time he was
 8. of fried shallot, lemon grass **shreds**, chilli paste, carrot ,
 9. just her marriage that's torn to **shreds**, it's her voice as well.
 10. In fact there were enough **shreds** of comfort on Saturday to
 11. raspberry jam - stuck to it are **shreds** of paper napkin. My alarm
 12. oil with garlic and parsley; **shreds** of smoked cod's roe; or
 13. struggling to hold on to the last **shreds** of credibility, this is a
 14. safety pins, pieces of plastic, **shreds** of balloons--I mean # <p>
 15. far she'd managed to cling to the **shreds** of her pride, but how long
 16. of the lamp glancing across the **shreds** of curtains at the windows.
 17. still wants to cling to the **shreds** of his understanding with
 18. sipated into nothing, whirled to **shreds** on the wind. Kate # The
 19. had ripped a small girl's face to **shreds**, scarring her for life, I
 20. Chop the ham into fairly thick **shreds**, stir into the lentils, and

Study 17: fire burn and related lexemes

1. he would strengthen the scrum and put **fire** in the other 14 bellies.
 2. as though she were slowly catching **fire**. Invisible flames jetted
 3. for them to merge. They then will **fire** lots of people and
 4. were killed died in an exchange of **fire** with Indian security
 5. Walter. <o> He had tried earlier to **burn** him in his home, and the
 6. chimneys, car exhausts and forest **burning**. By burning coal and
 7. racial epithets" as he was to flag **burning**. But, he added, `I am
 8. very time a child dies of radiation **burns** or a man grows so old
 9. signs on the 19th is likely to add **fuel** to the fire. However, if
 10. and Surveys are likely to add **fuel** to the debate. The
 11. voice soaked in Southern Comfort and **smoke**, Janis Joplin was the
 12. Alice Grogan leaned forward. She blew **smoke** out in a level stream,
 13. campaign freely, abusive and **inflammatory** language would be
 14. Order Act of having racially **inflammatory** material for
 15. learn is you never leave a fire **smoldering**. You learn that.
 16. <p> Smoke is still rising from **smoldering** fires in Los
 17. intense takeover speculation really **ignited** dealing rooms in
 18. from its surface. If these gases are **ignited**, they react with
 19. giving life of Malcolm X, is set to **fan** the flames of controversy
 20. awning and a breeze **fanned** the flames. More than

Study 18: sighted

1. job that they want done alongside **sighted** people. <ZZ1> recording
 2. - Wade lifted the rifle and **sighted** down the barrel at the
 3. for two weeks and it had been **sighted** several times. They had
 4. reports that Americans had been **sighted** alive in Indo-China. <p>
 5. into Brixham harbour after being **sighted** adrift and found to be
 6. costs. <p> Mr Corzine is far-**sighted** enough to see that the
 7. though he was more far-**sighted** than most of the right in
 8. at Doncaster with the equally far-**sighted** John Sanderson, the Park,
 9. tortoise seemed to be forthcoming, **sighted** this reptile, who appeared
 10. Chance of early bass, grey mullet **sighted** in inner harbour. <p>
 11. of large print books for the near-**sighted**. In a cupboard behind the
 12. of Crown of Thorns recently **sighted** on the Great Barrier Reef
 13. ges over the River Thames. Short-**sighted** leapers invariably remove
 14. small rooms, tended to be short-**sighted** compared with their
 15. tics that self-important, short-**sighted** rebellions could be the
 16. It was, therefore, `a short-**sighted** policy to abolish Reserve
 17. a disgrace. The vengeful, short-**sighted** decision by the Government
 18. rmany and Italy, Britain's short-**sighted** Conservative governments
 19. And at about 2 months, when the **sighted** baby begins to smile
 20. west Brisbane. <p> Flames were **sighted** just after midnight but

Study 19: hot

1. memoirs have caused a lot of **hot** air to be expelled this week,
2. and ties for men, even on a **hot** Brisbane day, and power suits
3. as $ 200 billion of **hot** cheques. So he is in fine shape
4. breast and blueberries or his **hot** chocolate souffle pudding
5. <M02> and they also haven't got **hot** food hot out # you know hot
6. more cooling than salads. **Hot** food cools you off because it
7. just to be safe. Besides, it was **hot** inside. I'm looking for Laura,"
8. evening-fresh Cornish crab with **hot** juicy prawns, succulent Chicken
9. marinated in cream, a few piping **hot** liver dumplings, some <f>
10. to the palate. Eight pages of **hot** news include The Simpsons,
11. his promise to himself in the **hot** pool and ate the larvae of a
12. Sport 31 <h> Cycling: Obree's **hot** pursuit wins world title </h>
13. plug in hair dryers, take **hot** showers, and turn on stoves.
14. and whisk it briskly into the **hot** stock. <p> Check seasoning,
15. into Paris for a good time or a **hot** story or, worse, writing a
16. delicious concoctions: `Hot Toddy", `Mulled Wine" and `Love
17. Don't use water that is too **hot**, too cold, or too hard. <f> <p>
18. campus, Trevor , said solar **hot** water systems could take longer
19. and book an appointment to have **hot** wax followed by an application
20. cold. Summers can be extremely **hot** with monsoon rainfall between

Study 20: cold

1. know why it is best served so very **cold**. Dave Mitchell is a post
2. all of its own. His eyes are **cold** as he looks up. She can hear
3. objected to the pilots' **cold**-blooded slang for the
4. north-westerly winds. <p> The **cold**, clear air direct from
5. shows the concept works `in a **cold** climate and in a much
6. ladder with victory in bitterly **cold** conditions. <p> The premiers
7. in four to six weeks, but in a **cold** frame may need to be left
8. Anonymous. `Late News on the **Cold** Front." University of Ca
9. steam swathed longing on **cold** grey station platforms:
10. restrictive royal life, with his **cold** mother, his press secretary
11. strip in harmony with a bitterly **cold** night, sought to apply every
12. Rinse the wild rice under **cold** running water, drain and
13. So here he sat, oblivious to the **cold** seeping slowly into his
14. he might be in for a long, **cold** wait. <p> He set off at ten
15. the United Nations in the post-**Cold** War era, President George
16. story about the chronicler of the **cold** war, the novelist John Le
17. even after the end of the **cold** war. <p> There can now be
18. They were the prelude to the **Cold** War. The Italian situation
19. resistant by including genes from **cold**-water fish. <p> Professor L
20. day, a small bowl of tsampa and **cold** water, but for the rest of

Study 21: warm

1. heated the streets. But instead of **warm** air a blast of cold came up
2. panels should not only look for a **warm** and friendly personality but
3. should be kept pleasant: not too **warm**, and not too cold; neither
4. winter the old Aga stove kept it **warm** as toast. Helen was in the
5. parmesan, grated Approx. pint **warm** chicken stock or water
6. their spoons and each ate a bite of **warm** cobbler and cold ice cream.
7. was said to have paid her some **warm** compliments". <p> Chirac has
8. beauty Syon is, and worn something **warm**. Dinner was followed by the
9. to feed it, to protect it, to **warm** it in a warm-blooded
10. because your muscles are still **warm**. People slump in the
11. which is why patients feel **warm**. The dead cells would slough
12. of methane; when they begin to **warm**, they release the methane.
13. there is an expectation of **warm** to mild weather until early
14. Denmark 1-nil in a World Cup **warm-up** match. The goal came ten
15. and we use electrical heaters to **warm** up our home. <p> SHUSTER:
16. this should have been a pleasant **warm-up** for the three-time
17. under parked cars or over the **warm** vents of the Underground. As
18. sorrel or chervil sauces, or with **warm** vinaigrettes flavoured with
19. and a calm, moonlit sea and **warm**, windless middle watch did
20. gallantly while each guest tells a **warm** yet funny anecdote of which

Study 22: cool

1. mixture, mix in well. Leave to **cool**. <p> Chef's note: black
2. Travolta) and letting them act **cool**. <p> The story, told with
3. of broken shell trembled in the **cool** air, blurs of down quivering
4. is not available when the soil is **cool** and the insect pest or weed
5. average 35deg. <p> Winters are **cool** but comfortable. <p> Spring
6. the goose and allow it to rest and **cool** completely. This will take a
7. to be considered are warm-up/**cool** down, finding your level of
8. freezing. Blanch for 2-4 minutes, **cool**, drain, dry and freeze in a
9. them from oven and drain. Leave to **cool** if you're not serving them
10. a lot of talking, and **cool** it off. The reason why it's
11. the juices and whisk again. Once **cool**, it may be bottled and
12. has a lock, which buys you vital **cool-off**, swab-down, cover-up
13. most recent ice age was wet and **cool** rather than warm and dry. <p>
14. think dancing and music were **cool**," she said. <p> I started
15. of 1.8m/6ft in climates with **cool** summers. Dark green `oak'
16. island that's more effortlessly **cool** than # Providencia and it's
17. allows the reaction chamber to **cool**, thus preventing the
18. Pook with Jamie, kept commendably **cool** to clinch her team's position
19. low-slung locomotive of drop dead **cool** to steamroller your
20. on holiday. <p> Charles lost his **cool** when Harry left the picnic

Study 23: deep shallow clean dirty sour sweet

1. " Ken Livingstone, advocating **deep** cuts in defence spending. The
 2. partly due to the two men's **deep** enmity. Mr Blaney had refused
 3. the rest of the game should have **deep** feelings of unease, so the
 4. This is # where I stumbled in the **deep** frozen ruts and he caught my
 5. fat on the food before grilling. **Shallow** frying or browning either
 6. satisfactory - but even those **shallow** thrills are usually brief.
 7. anglers often walk past the fast, **shallow** water up to three foot
 8. by the former Soviet Union in **shallow** waters off the island. An
 9. drive away where the water is **clean** and safe for swimming. This
 10. could emerge and wipe the slate **clean**. <p> Tony Paculla <p> <h>
 11. have found a dirty trick to **clean** out tourists. <p> Thieves `
 12. says. The real problem is in **dirty** needles and adulterated
 13. # What can I say? It's a **dirty** job but somebody has to do
 14. clothes sizes are no longer **dirty** words to be muttered quietly
 15. unfair, or we relapse into **sour** and bitter silence # 3 <f>
 16. sauce and sherry, Duckling with **sour** cherries, and Wild boar meat
 17. were `extremely low". The only **sour** notes were sounded by the
 18. for breakfast. He could smell a **sweet** baking odor, and coffee and
 19. said Pittsy. `That's really **sweet** of you." Trevor came up to
 20. at the RCKNDY, along with a **sweet** photo from her wedding (seen

Study 24: tool and hyponyms

1. and one output. However, if a **tool** is basically a labor-saving
 2. which risks losing the invaluable **tool** of organised thought." As the
 3. countries appraisal is now a **tool** of management. The questions
 4. Wide Web is an ideal reference **tool**, whether you're looking for a
 5. of machinery, specialist **tools**, accessories, finishes,
 6. dinghy, the sets of charts, the **tools** and gas bottles, the compass
 7. like Tuesday's. Their machine **tools** are even bolted to the shop
 8. offers finely-honed descriptive **tools** for identifying objects and
 9. America are developing software **tools** to integrate the images and
 10. of this was to ensure that no **tools** were taken back to the
 11. If the package had not been **hammered** out, compulsory spending
 12. night drilling and sawing and **hammering** in their newly renovated
 13. his fine eyes and the **chiselled**, hard aspects of his
 14. biggest car maker, last night **axed** 21 factories and 74,000 jobs
 15. Pernell got out, brandishing a **spade** which he used to chase off
 16. all that is required is a **screwdriver** to open it up with.
 17. needed a lot of trimming with a **saw** to get the tree to stand
 18. days later is bound to throw a **spanner** in the works or leave you
 19. swapped their briefcases for **spanners** and welding gear when
 20. legal action can be a persuasive **lever**. <p> In simple terms sexual

Study 25: sickness, disease, hyponyms and related items

1. in last year's title race when **sickness** caused him to retire.
 2. take 40 days a year off for **sickness** compared with the CBI's
 3. up on Britain's inflationary **sickness**, expressed astonishment
 4. suggests that this high rate of **sickness** cannot be explained by
 5. deducted from their pay. Managing **sickness** absence in London, Audit
 6. chronic obstructive pulmonary **disease**. Explain what you are doing
 7. and to the developmental **disease** called catch-up that is
 8. This leaves one last possible **disease** to be seriously considered
 9. learned she had Alzheimer's **disease**, she felt she could not face
 10. if her mother has had the **disease**, and by 130 percent if a
 11. Christine's death from **cancer**, he nearly went mad. That
 12. the money to have gone to the **Cancer** Fund or the Heart Society,
 13. experienced as a psychological **symptom** or acted out against the
 14. anti-Americanism was another **symptom** of change, although it had
 15. months of anticipation and **feverish** speculation in literary,
 16. forester's lodge. She has been **feverish** for two days. It may be
 17. and it sounds like he's got a **headache** there because once and for
 18. to complain of depression and **headache** and toothache and general
 19. financial markets are taking a **jaundiced** view of the Government's
 20. were a sad testimony to the **jaundiced**, political task he has

Study 26: auburn

1. a head count of the crowds at Mount **Auburn** and Laurel Hill, closely
 2. as he ran a hand through the mop of **auburn** curly hair above the
 3. peaches-and-cream complexion, rich **auburn** hair, succulently round
 4. come in with <tc text=laughs> er **auburn** hair right down here
 5. I have ever seen - she had rich **auburn** hair down to her
 6. face framed in the luxuriant flow of **auburn** hair, huge hazel eyes
 7. way the wind caught and tossed her **auburn** hair, the smile that came
 8. as fair And a dim nimbus was his **auburn** hair, While his eyes had
 9. that she was there Kate saw her **auburn** hair, her stained, torn,
 10. almost relaxed in the car seat. Her **auburn** hair framed her face and
 11. complexion with curling reddish or **auburn** hair and a strikingly
 12. royal connection and her flamboyant **auburn** hair immediately suggest
 13. or Rhys if it proved necessary. <p> **Auburn**-haired Carmen sits near
 14. treetops in the Detroit suburb of **Auburn** Hills. Chrysler started
 15. Edwards: Thank you very much. The **Auburn** men's basketball and
 16. hair, to execute William Kemmler in **Auburn** prison, New York. <p>
 17. again, not my academic freedom, but **Auburn**'s academic freedom was
 18. out from Cambridge, go on Mt. **Auburn** Street into Belmont to
 19. Welcome. <p> Stan Vetock (**Auburn** University # Well, how
 20. them # <p> In the Seventies the **Auburn** was owned by a man from

Study 27: problem

1. handle now # and it has become a **problem**. Our staff is exhausted."
 2. to you: You may not have a **problem** with these other substances
 3. just now realizing we have a **problem**. I can't think three ships
 4. Great War initially created a **problem** for Lenin. The Austrians,
 5. shared England's chess **problem** solving team of Jonathan
 6. it was down to his educational **problem** and how much was it down to
 7. those countries whose main **problem** is with official debt. But
 8. be trained. Finance was the main **problem**, especially for the newly
 9. again put it so wisely, `a moral **problem** that challenges the whole
 10. believe that it's an overrated **problem**. It's often easy to blame
 11. treat what might be the real **problem**," Mr Williams said. <p> We
 12. for him in the past. His real **problem** this year is in the--in the
 13. to be a smooth ride. <p> The **problem** was not shortage of orders,
 14. Music department reports. The **problem** is how to avoid becoming a
 15. him a powerful springboard. The **problem**, of course, is how to
 16. do so, not just because of the **problem** in the territories, but
 17. butter and jelly sandwich. The **problem** was solved decades ago.
 18. co-operation vis-a-vis the **problem** of Germany (its debts and
 19. series does not identify the **problem**, the whole thing may be
 20. crisis casts new light on the **problem** of international debt. As

Study 28: blow (noun)

1. Nissan UK has already dealt a **blow** to Nissan's hopes of breaking
 2. pay their mortgages were dealt a **blow** yesterday by a High Court
 3. haemorrhage, probably caused by a **blow** to the head by a solid object.
 4. without public transport, was a **blow** to steadily declining living
 5. stimulus program - how serious a **blow** is this to the President? <p>
 6. High Court has delivered another **blow** to the troubled Lloyd's of
 7. time." <p> Seaforth faces another **blow** anyway. Leading man Linus
 8. him through that. It was a big **blow** to us. I believe that this
 9. describe the meeting as a big **blow** to the Communist government in
 10. many men, will be a considerable **blow** to the morale of the armed
 11. Prohibition as a decisive **blow** against the un-American
 12. although she struck the first **blow** in Weep No More (and even
 13. The judgment is a humiliating **blow** to Customs which has now
 14. image was about to deal it a new **blow**. Within hours the cabinet
 15. The news came as a particular **blow** to the organisers, who were
 16. to strike a psychological **blow**. <p> Gallacher Jnr said: `It's
 17. <p> Llanelli suffered a second **blow** when Phil May, their veteran
 18. Johansson struck a spectacular **blow** at the long 11th, holing a
 19. to my eyes. The recipient of the **blow** retired instantly to
 20. will channel the force of your **blow** to achieve the greatest

Study 29: lean (adjective)

1. cent being converted into food for **lean** and hungry animals, both
2. wer, but Frank Burrows allowed his **lean**, gaunt features to break
3. their hall mirror. He was sunburnt, **lean**, he looked like a cowboy in
4. immed and most universities are now **lean** institutions; there are few
5. eeds conversation when you've got a **lean**, keen orgasmatron just
6. please. Box No 173/13. Charming **lean** male (30) black curly hair.
7. <ZF0> we're now in to what we call **lean** manufacturing. <M01> Right.
8. adventurous, athletic shape; it's a **lean**, masculine, rigorously
9. rich foods. Eat iron-rich foods: **lean** meat, liver, prunes, pinto
10. he marinade adds moisture to drier **lean** meats, therefore omit oils
11. <p> On a screen near you <p> It's **lean**, modern and thoroughly good-
12. are expected to die earlier than **lean** or healthier people, so the
13. note with a gulp that the previous **lean** patch, which began in 1965,
14. the warning on page 239). The very **lean**, red meats, with their high
15. local bar in later years than the **lean** rookie cop who first hit the
16. primus and slicing off two lovely **lean** schnitzels from the leg. I
17. when he was going through a **lean** spell last season. <p> Says
18. in the room besides Claud was a **lean** stringy old fellow with a
19. do well to follow. Too often in **lean** times the poorest are asked
20. to see them through the seven **lean** years. <p> It is usually

Study 30: pay pays paid paying

1. alteration of the sums to be **paid**. <p> Although judges had
2. meetings and rallies. They must also **pay** a subscription fee, part of
3. on water supply equipment not **paid** by councils but paid by
4. daytime. <M01> So you didn't have to **pay** dig fees during the
5. delays. It may actually be worth **paying** extra and travelling on a
6. are recognised for our efficiency in **paying** five million people a
7. about the game. <p> You get what you **pay** for right? <p> I agree that
8. of Communist ideology - equal **pay** for equal work, the right to
9. strike since Tuesday demanding a **pay** increase of seventy per
10. serious danger of being unable to **pay** interest - currently running
11. or not but it's set up so that it **pays** off in a later scene. <M05>
12. `Never felt better. I went to **pay** my respects.' I guessed."
13. and some journalists, continue to **pay** only `token" attention to
14. for folks who couldn't afford to **pay**. She put him on the board of
15. effect go unaudited and they do not **pay** tax. Many private business
16. are still valid. `We are still **paying** the price for what Graham
17. the highest compliment that can be **paid** to the colonial buildings
18. driver looks at and says `he gets **paid** too much". <p> In this
19. s shadow cabinet. <p> Her new boss **paid** tribute to former deputy
20. to pay poll tax - and those who **pay** will be even more reluctant

Study 31: deep

1. engaging and funny, laced with a **deep** affection for a unique culture
 2. eyes widened in horror. He took a **deep** breath and unloaded all those
 3. pull the curtain back. I took a **deep** breath, tried to compose
 4. shoulder. I leaned there, taking **deep** breaths. Presently the
 5. Ken Livingstone, advocating **deep** cuts in defence spending. The
 6. 56 billion budget calling for **deep** cuts in education, health and
 7. instead in bitter conflict and **deep** disillusionment. At the close
 8. in revenge? Good for you!" when **deep** down you know that what you
 9. the rest of the game should have **deep** feelings of unease, so the
 10. Guinea is a nation humbled by **deep** financial crisis and tarred w
 11. is # where I stumbled in the **deep** frozen ruts and he caught my
 12. far bloom than do trees with **deep** red flowers. <p> All we can do
 13. I was sure there had been a **deep** relationship of some sort
 14. the will which recognizes one's **deep** self in all the elements of
 15. colonial mansions of America's **Deep** South. This was far more
 16. result of interacting with the **deep** symbology of the card you
 17. melodic pip guitars and ironic, **deep**-voiced lyrics notched up a
 18. areas of London are submerged in **deep** water. Although the film
 19. shingle bank. Hurst Castle **deep** water for pout, dogs and bass.
 20. performing from the bottom of a **deep** well. The second preview

Study 32 shoulder shoulders shouldered shouldering

1. a month after dislocating his right **shoulder**. <p> Daniel Amokachi is
 2. he embraced me and shook me by the **shoulder** and he was crying. It's
 3. which looks like a gun, over his **shoulder** and a large blanket by
 4. Thack slid his arm along Michael's **shoulder** and gave him a vigorous
 5. gasped, leaning heavily on her **shoulder**. But herbs and simples
 6. nations," he said. The chip on the **shoulder**, call it what you will.
 7. <p> Samir, looking over Akbar's **shoulder**, could not make out the
 8. with us sort of watching over their **shoulder** for quite a while. <p>
 9. straight, which brings the right **shoulder** forward. This can cause
 10. sharply: the man whose head and **shoulders** he had thought
 11. <p> One player climbed on the **shoulders** of a team-mate to get
 12. defeat at Gettysburg lay on the **shoulders** of Robert E. Lee." The
 13. shades. Now's the time to try out **shoulder** pads, a sharp and wider
 14. the incident when Meninga's **shoulder** put Terry Lamb into the
 15. jacket wrapped tightly into a **shoulder** slung bag. <p> The riot
 16. too violent a kick against my **shoulder** so that when I pressed
 17. is a monkey on the video director's **shoulder** that tells him that he
 18. longer monster at sixteen knots, **shouldering** through the surf. He
 19. black leather jackets, rubbing **shoulder** to shoulder in the hot,
 20. something about to be fitted on his **shoulders**. Will it be his first

Study 33: hearted heart hearts

1. who care for you will be **broken-hearted** and worst of all the
2. so, the shares are not for the **faint-hearted**. <p> Business 17 <h> The
3. a couple of students who made a **half-hearted** teasing grab at her,
4. Religious reform was still **half-hearted**. `We could prostrate,
5. when I publicly criticised his **half-hearted** positions concerning the
6. I, Lord, as thickheaded and as **hard-hearted** as Pharaoh? Am I
7. go ahead on July 3 - with **light-hearted** elements toned down. It
8. farmer, his wife, or their **tender-hearted** children. <p> Five years
9. female of any nationality. I am **warm hearted**, caring and humorous, I
10. backed away from giving **whole-hearted** support to his cabinet
11. stage from Perugia to Terni in the **heart** of Italy. <p> Diving
12. regime, besides helping your **heart**, might cure your
13. Oxford, Mississippi, in 1962 from a **heart** attack brought on by acute
14. arteries or a heart attack. The **heart** can become too weak to
15. amount of blood down them. If the **heart** has to beat at high
16. discovered dead - apparently from a **heart** attack during a British
17. when they said that he'd had a **heart** attack and died.
18. gold; Letter </h> <p> IT warmed my **heart** to read of Linford
19. and some of the jockeys whose **hearts** have gone cold, in public
20. initiatives has changed neither the **hearts** nor the minds of

Study 34: shred shreds shredded shredding

1. rapidly running out of every last **shred** of patience," Pipe said. If
2. Joe Elliot, destroying the last **shred** of Lep's credibility, but
3. will not rest until every **shred** of humanism is banished from
4. assuredly, without any **shred** of doubt at all in my mind--
5. <p> There is not a **shred** of evidence that sanctions
6. gone for 125, and their batting **shredded** by the South African pace
7. until fragrant. Throw in 500g/1lb **shredded** greens and 1/2tsp salt.
8. I read an article suggesting that **shredded** newspapers in the bottom
9. were running towards her with **shredded** clothing. Another
10. and an undetermined number of **shredded** telephone books. General
11. Vatican Radio had already **shredded** compromising material.
12. she said. Sadly, the ducks got `**shredded**" several years ago by a
13. History ancient and modern lies **shredded** under the wheels of
14. feedback eruptions, nerve-**shredding** drones, sustained
15. laughable and said that any **shredding** that took place after
16. juice and add a few scallops or **shreds** of chicken breast. <p> Try
17. ripped everything in the rooms to **shreds**. Doors disintegrated. Soon
18. of recent meals were there; **shreds** of cones, and the odd top-
19. as things built up out of **shreds** and patches over time. We
20. sufficient to tear this family to **shreds**. The long arm of royal

Study 35: linguistic metaphors from the field of animals

1. Another widely-used substitute for **cow's** milk is soya milk made from the soya bean.
2. I know you'll accuse me of being a patronising old **cow** but I love you all.
3. By sheer luck neighbours had called out the electricity board to rescue their **cat** stuck up a telegraph pole 200 yards away.
4. Kenneth Clarke will modify the tax status of share options so as to allow the middle managers their tax-efficient perk, while still hitting the fat **cats**.
5. ... the crazy worker with his pet **mouse**.
6. I know for a fact that he'd always regarded her as **mousy** and boring.
7. We had a fine sow and six **pigs** in a pen near the barn.
8. She had **pigged** out on pizza before the show.
9. We've given money to Greenpeace and other groups trying to save whales and dolphins and even **wolves**.
10. At 3pm he **wolfed** down salad and steak, then strolled along the Harlem River with his manager.
11. But in the squalor of war, populations of **rats** and mice have boomed.
12. He also threatened to kill any of the other six-year-olds if they **ratted** on him.
13. She can be a right little **bitch**; she knows what she's doing to me.
14. I **bitched** about her all the way home in the taxi.
15. A shot rings out and the **hounds'** yelping is stilled.
16. Employees who refuse to join a union are persecuted and **hounded** and have to throw themselves at the mercy of the industrial commission.
17. I see the odd **squirrel** scamper across, too.
18. Many of the participators will have been **squirrelling** away rare objects for the occasion.
19. The striped-tailed **ape** is reputed to move at lightning speed in an emergency.
20. I find it sad that education is trying to **ape** the ideas and jargon of total quality management"

Study 36: linguistic metaphors from the field of cooking (verbs)

1. Light the fire in the boathouse, **boil** water if we have to. Even if
2. the point where my blood starts **boiling**. I'm real tired of being
3. Iraq keeps hostage issue on the **boil** </h> From PATRICK COCKBURN
4. butter <p> Cook the potatoes in **boiling** salted water until tender,
5. <p> Add a small quantity when **stewing** rhubarb to enhance the
6. nothing at all to him. Let him **stew** in his own juice. OK, Sarah?"
7. absorbing other flavours when **stewed** with meat, fruit, herbs and
8. remarkably like a mixture of **stewed** tea, printer's ink and lemon
9. boil hard for five minutes, then **simmer**, covered, until they are
10. bring to the boil and then **simmer** until shells open. Remove
11. wrong questions. <p> Still **simmering** after the row, Nebiolo
12. there are persistent rumors of **simmering** unrest within the armed
13. versatile of meats. It can be **roasted** whole at any stage of life
14. to have a nutty flavour when **roasted**. <p> I had never eaten so
15. performance or giving them a **roasting** for not coming up to
16. and the media would have **roasted** him had he played for, say,
17. nodded. <p> So we've both been **grilled** by the same cop. Me and
18. to `a rich smell of onions and **grilling** meat". Sadly, the house
19. I was given a thoroughly hostile **grilling** in the House of Commons.
20. large shrimps that have been **grilled** over wet straw (the smoke

Study 37: fit lean trim bloated flabby slim overweight

1. strike the young and physically **fit**. Growth of the heart muscle is
 2. to argue that Labour is not yet **fit** to govern, is bereft of an
 3. companies to be leaner and **fitter**, and managers to take a
 4. for hacking at an already pretty **lean** cost base. It also means that
 5. wide? Most companies are now so **lean** that they no longer believe
 6. they can go," he muttered. The **lean** limbs in the shadows reminded
 7. Pizza Kitchen. He was tanned and **trim**, lived on the fringes of the
 8. sparkling form out front, looking **trim** and terrific if a little less
 9. latest proposal. They believe a **trimmer** company will become more
 10. there must be no resurgence of **bloated** house prices, which played
 11. scene photos of the boys' tiny, **bloated** corpses. <p> But scarcely
 12. tomato drink. My stomach feels **bloated** and I now feel shaky.
 13. getting lots of letters from **flabby** female fans who admired his
 14. of the title, would be all **flabby** nostalgia but for the fact
 15. about American business being **flabby**, American capitalism going 16.
 collapse. The big oil companies **slimmed** their operations and in the
 17. Office has rationalised and **slimmed** down the list of charges
 18. Lancet about a study of seven **slimming** methods launched through
 19. kind of attire normally worn by **overweight** females is also
 20. a bit dubious. Apart from being **overweight** in technology and mildly

Study 38: thin lean slim slender skinny

1. that his patience was wearing **thin**. <p> You would not expect
 2. Macdonald. He thought of those **thin** contained women she drew,
 3. burning ambition. I wanted to be **thin**. I felt fat and I believed
 4. stick with him through thick and **thin**. I don't think we'll be able
 5. analysis of the party's paper-**thin** ideology shows that Doriot
 6. paper because NRA baliffs are so **thin** on the ground. <p> But here
 7. everyone. <o> There had been a **thin** steel cable stretched across
 8. reaches of Titan's atmosphere is **thin**, the 6km/s velocity of the
 9. on about how this country has the **leanest** government in the Western
 10. was sustained throughout those **lean** times when his own country had
 11. want to indulge in meats, choose **lean** cuts, or cook by steam. <p>
 12. `Nigel's chances are very **slim** and I wouldn't want to run the
 13. tall, Muslim from Kashmir. Very **slim**, attractive and elegant. A
 14. and ran her fingers along the **slim**, elegant little necklace of
 15. market where margins are more **slender** still because buyers expect
 16. with rings so fine they make a **slender** finger look even more
 17. the English team with only a **slender** chance of progressing to
 18. can but some girls are really **skinny** and still go on a diet. <p>
 19. but operate on profit margins as **skinny** as a Seventh Avenue fashion
 20. killer's bomb. <p> At times, the **skinny** little boy wrinkles up his